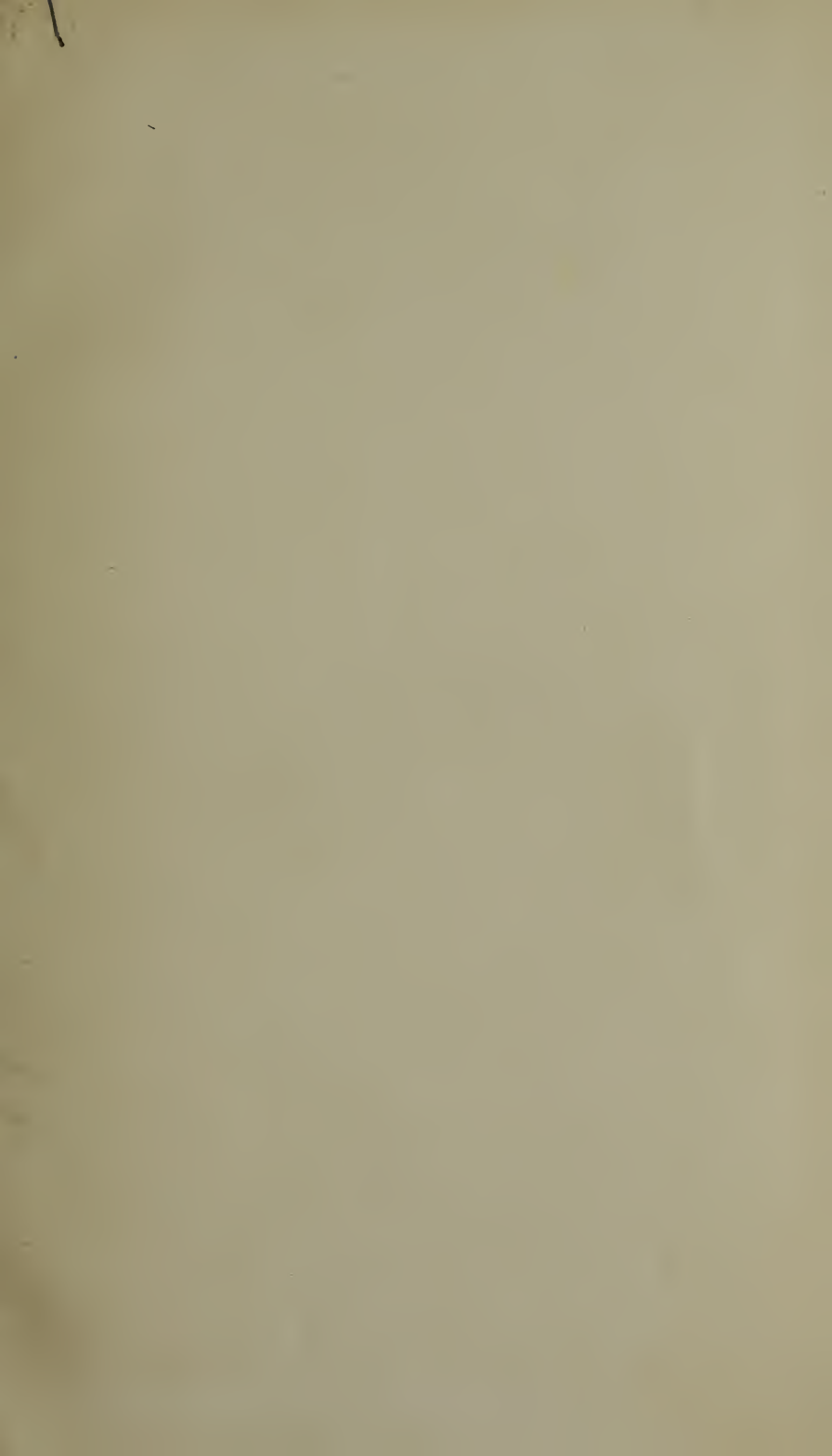


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THE FIRST REPORT

OF

THE TRUSTEES

OF THE

MASSACHUSETTS HOSPITAL FOR

CONSUMPTIVES AND TUBERCULAR PATIENTS.

Mass.; State sanatorium at Rutland, (Tubercular)

1897.

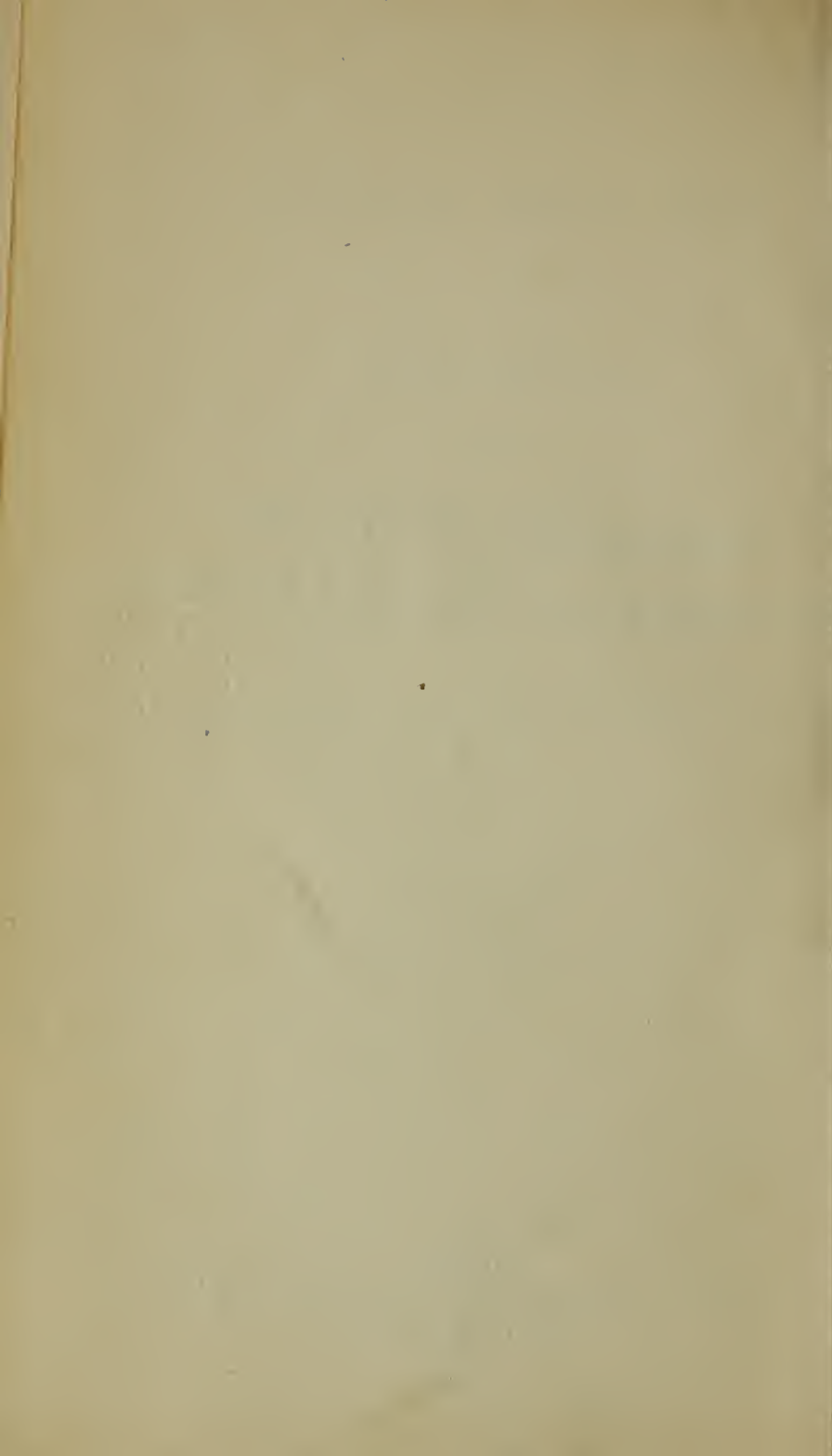
BOSTON:

WRIGHT & POTTER PRINTING CO., STATE PRINTERS,

18 POST OFFICE SQUARE.

1898.

U.



Commonwealth of Massachusetts.

REPORT OF THE TRUSTEES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

This Board of Trustees was appointed pursuant to the provisions of chapter 503 of the Statutes of 1895. The board met for organization on Aug. 15, 1895, and made it their first study to gather from the opinions of experts all available advice and aid in determining upon a suitable location for the hospital.

A circular letter of inquiry was sent by mail to all the registered physicians of the state, and from very many of them, answers were received containing valuable suggestions. Different members of the board spent much time in examining different localities to which their attention had been drawn.

It was deemed necessary that the place selected should have an altitude of at least one thousand feet above the sea; should be situated on a southerly slope, and protected by wood lands on the north; that it should have a dry soil; be capable of good drainage; be so situated that not less than two hundred acres of land could be secured; and should have an unlimited supply of pure water, to be obtained either from the public water supply of the locality or by a complete system of its own. A further requirement was that the location should possess reasonably convenient means of communication by railroad, and should be located no farther from the centre of population than the other conditions of the case required.

After a continuous study of the question by the individual trustees, and at a regular meeting held at the office assigned to them, at No. 5 Mount Vernon Street, Boston, the com-

mittee unanimously decided that in the town of Rutland could be obtained a site which met all the requirements. The site selected has an elevation of eleven hundred and sixty feet above the sea, and the wooded hill directly north of the hospital buildings rises one hundred feet higher, to an elevation of twelve hundred and sixty feet. The lands selected border on the westerly side of Lake Muschopaug for about eighteen hundred feet, and include the whole of the hill referred to.

After coming to the conclusion here indicated, options for the purchase of nearly all the land desired were obtained, surveys and certain maps were prepared, and the questions of location and the amount of land to be purchased were presented to the governor and council for their advice.

After a hearing and a careful study of the facts bearing on the case, the governor and council expressed approval of the location and expressed the view that it was desirable to secure about two hundred acres, with a considerable frontage on the lake. The trustees proceeded to secure deeds of nearly all the land wanted. They were unable in one instance to make any arrangement, and on petition to the legislature, the statute 1896, chapter 117, was passed, which enabled the board of trustees to secure the lands which were deemed essential. For greater accuracy and convenience the board of trustees caused to be recorded, under the provisions of this act, a description and plan of the entire land taken and also of lands purchased. The record is in the registry of deeds at Worcester, book 1502, page 369. The land was obtained from the several owners as follows : —

G. W. Cowden, 53 acres and buildings,	\$5,500 00
Sarah E. Monroe, 18 acres,	900 00
J. B. Wells, $13\frac{1}{4}$ acres,	450 00
D. R. Wheeler, 59 acres,	2,500 00
B. W. Potter, $\frac{2}{10}$ acres,	10 00
Mary G. Smith, $1\frac{1}{10}$ acres,	200 00
F. G. Bartlett, $11\frac{5}{100}$ acres,	1,000 00
W. H. Bartlett, right of way,	150 00
R. J. Stevenson, 6 acres,	150 00
Legal services, examining titles, etc.,	147 47
Total,	<u>\$11,007 47</u>

Land of Daniel Nihen, 28.55 acres, was taken by the authority of said act alone, and no deed thereof has been obtained. The entire land secured is on the summit, or watershed, between the Nashua River basin and the Ware River basin.

The question of a water supply for the hospital was at the same time receiving consideration. Lake Muschopaug affords an abundant supply of the purest spring water, and two ways of obtaining the supply were feasible, — either to put in a small water supply system, sufficient for the needs of the hospital, with a pumping station at the lake, or to secure from the town of Rutland a water supply from a system which they were authorized to construct under statute 1895, chapter 158. The latter method was adopted, and a contract made with the town for a full supply for all purposes, at the rate of one thousand dollars per year for ten years. The town immediately entered upon the construction of its system, and the facilities furnished, ready for the hospital use, are abundant and satisfactory.

That the town of Rutland favored the location of the hospital is evident from the fact that the acceptance of the act of the legislature required a two thirds vote, and at a meeting at which the proposed location of the hospital was assigned as reason for immediate action, the acceptance of the voters was by much more than the requisite two thirds vote.

Competitive plans for the hospital were considered, and the trustees adopted those submitted by Wm. Chester Chase of Boston. They were submitted to the governor and council for approval.

Estimates were obtained as to the cost of the real estate, buildings, equipment and furnishing the same, within the appropriation of one hundred and fifty thousand dollars.

The question of sewage disposal came up for careful consideration by this board, the state board of health and the governor and council. In order to insure absolute safety and avoid all possible objections, it was decided to incur the unexpected but necessary additional expense of carrying the drainage nearly one mile west through a cut of about fifteen feet in the ledge on the divide, and onto lands, six acres

in extent, there acquired for the purpose of filtration beds, which were approved as entirely suitable for that purpose.

The rock cutting and construction has been somewhat more expensive than was at first estimated, and some necessary changes in the grade of the building, incident to drainage in the direction determined upon, have caused a total outlay of:—

Sewage disposal,	\$10,641 56
The surface drains and underdrains built for the hospital and grounds, etc,	1,757 50
Water supply and distribution pipes, hydrants, gates, etc., have cost (including an estimated \$125 for engineering),	1,924 62
Fencing a part of the grounds,	261 75
Paid and due the town for water rent to January 1,	1,260 62
<hr/>	
Total cost of sewers, drainage, water supply, water rent, fencing and fire protection,	\$15,846 05

Nearly all of which has been an unexpected but necessary expense.

In discussing the general requirements of the plan to be adopted, the committee were convinced, after the most careful study, that detached wards, separated sufficiently for the best sunlight and air, connected only by a convenient corridor, were most desirable, and also that such wards should be only one story in height. This is the approved modern method, 'desirable for the health and comfort of patients, and when once in operation can be more conveniently and economically administered. Buildings thus constructed cost more than a more compact method of construction of hospitals two and three stories or more in height.

The disbursements already made and under contract are as follows (made up as of Dec. 1, 1897):—

Paid for land,	\$11,007 47
Grading and roads,	11,980 24
Engineers and architects,	9,783 27
Sewer and drainage,	10,857 50
Water system,	1,791 62
Electric wiring,	600 00
Mather & Whiting, contractors,	63,592 65
Franklin Company, heating and ventilating,	10,455 00
<hr/>	
<i>Amount carried forward,</i>	<i>\$120,067 75</i>

<i>Amount brought forward,</i>										\$120,067 75
Costello & Co., plumbing,	.	.	.	.	.	.	.	.	.	4,280 00
Water rent, town of Rutland,	.	.	.	.	.	.	.	.	.	760 62
Trustees' compensation,	.	.	.	.	.	.	.	.	.	7,733 30
Trustees' travelling expenses,	.	.	.	.	.	.	.	.	.	1,058 29
Miscellaneous,	.	.	.	.	.	.	.	.	.	895 98
										<hr/>
										\$134,795 94

The unpaid obligations under contract and otherwise are as follows :—

Outlook on water tower,	.	.	.	.	.	.	.	.	.	\$1,000 00
D. Nihen land, estimated,	.	.	.	.	.	.	.	.	.	1,500 00
Water rents, due Jan. 1, 1898,	.	.	.	.	.	.	.	.	.	500 00
Balance due Taylor,	.	.	.	.	.	.	.	.	.	2,000 00
Balance due Mather & Whiting,	.	.	.	.	.	.	.	.	.	10,352 95
Balance due Franklin Company,	.	.	.	.	.	.	.	.	.	3,887 00
Balance due Costello & Co.,	.	.	.	.	.	.	.	.	.	2,378 00
Balance, sundries,	.	.	.	.	.	.	.	.	.	2,000 00
										<hr/>
										\$23,617 95

The operation of such a hospital, with small detached wards of one story in height, can safely be carried on if lighted with kerosene lamps. We do not, however, recommend this.

It is believed that an electric lighting plant should be put in, at an estimated cost of	.	.	.	.	.	.	.	.	.	\$5,000 00
For the furnishing of the building there will be required an outlay of	.	.	.	.	.	.	.	.	.	15,000 00
For completing the grading and for the proper adjustment of the grounds, removing stone wall, etc.,	.	.	.	.	.	.	.	.	.	2,500 00
For building a cheap ice house,	.	.	.	.	.	.	.	.	.	500 00
For fencing the filter beds,	.	.	.	.	.	.	.	.	.	150 00
For existing liabilities in excess of appropriation,	.	.	.	.	.	.	.	.	.	8,413 89
For needed coal shed at railroad station,	.	.	.	.	.	.	.	.	.	1,500 00
Estimated necessary appropriation for the current expenses of the first year,	.	.	.	.	.	.	.	.	.	40,000 00
										<hr/>
Total,	.	.	.	.	.	.	.	.	.	\$73,063 89

The act of incorporation (statutes 1895, chapter 503, section 9) provides that the trustees may fix the rate of charge for private patients; pauper patients are to be at the charge of the town or city, or settlement, or at the charge of the

Commonwealth. The actual cost of such patients will, from the nature of the case, be somewhat more than the rate established by statute for patients in lunatic hospitals, — \$3.25 per week. (Public Statutes, chapter 87, section 31.) Nevertheless, in consideration of the especial purpose of the hospital to care for patients otherwise unable to procure proper conditions for their recovery, the trustees intend to fix the rate for private patients at 50 cents per day; and in order that there may be no class feeling among the patients, either of envy or discontent, the trustees recommend such legislation as will authorize the same charge, viz., \$3.50 per week, for state patients and for those chargeable to towns.

It is for the legislature to decide whether this estimated larger expense shall be borne by an annual appropriation, or whether a larger charge shall be authorized.

The opening year of the hospital will require an appropriation for the running expenses of the year larger than may be expected in coming years, because it must from the first have a full equipment of physicians, attendants and servants, with full expense for water service, fuel and lights, and this before any patients are admitted or revenue derived therefrom.

The trustees hope that the recommendation of your excellency made to the legislature one year ago, in favor of a more euphonious name, may be acted upon. They suggest "The Massachusetts Hospital for Tuberculous Patients at Rutland," as a name showing the purpose and location.

Respectfully submitted,

FRED. B. PERCY.
ALFRED WORCESTER.
J. C. HAMMOND.
A. W. ESLEECK.
W. E. PARKHURST.

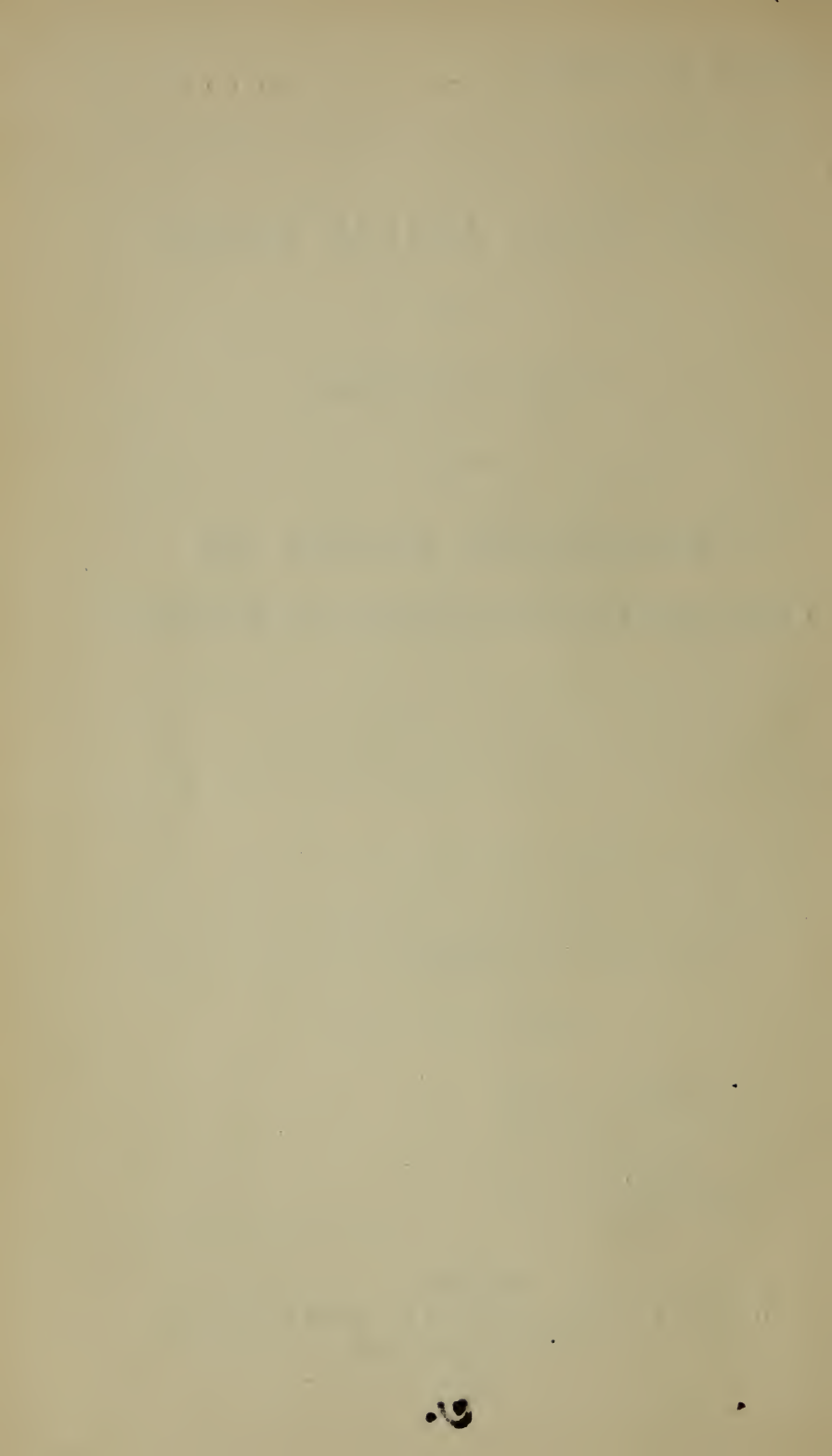
THE SECOND ANNUAL REPORT
OF
THE TRUSTEES
OF THE
MASSACHUSETTS HOSPITAL FOR
CONSUMPTIVES AND TUBERCULAR PATIENTS.

1898.

BOSTON :
WRIGHT & POTTER PRINTING CO., STATE PRINTERS,
18 POST OFFICE SQUARE.

1899.





Commonwealth of Massachusetts.

REPORT OF THE TRUSTEES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

The trustees, acting in accordance with the Statutes of 1895, chapter 503, gave notice to Your Excellency on Sept. 23, 1898, that the hospital was completed and ready for the reception of patients, and on that day the same was inspected by you and a committee of the Council. A proclamation issued Sept. 24, 1898, announced that the hospital would be open for the reception of patients on and after Oct. 1, 1898.

The first patient was received Oct. 3, 1898. At the date of this report, October 29, 27 patients have been received.

A brief supplemental report will be submitted Dec. 31, 1898, with the permission of Your Excellency, showing the number of patients at that time, together with a detailed report of the payments made from the appropriation for current expenses made by Statutes of 1898, chapter 492, for the year then ending.

It may be helpful to offer the views of this Board as to the

PURPOSES OF THE HOSPITAL.

As in the act of the Legislature establishing the hospital the purpose of the institution is not defined, the trustees at the outset were confronted with the question whether a sanitarium for the cure of patients or a refuge for the incurably affected was intended. A hospital for consumptives might serve for either purpose, but manifestly could not serve for both. Where patients are admitted for the comfort that may be given them in their last days and for the protection such quarantine affords their family and friends, a hospital

can offer far from healthful inspiration to patients not so far advanced in the disease who might recover under more cheering surroundings. Besides the dismal effect of proximity to the dying, the regime adapted to the very sick is not what curable patients require, and, on the other hand, the necessary quiet and inaction of the very sick would be disturbed by the proper activities of patients travelling the road to recovery.

In determining that the hospital entrusted to their charge shall be devoted primarily to the cure of tuberculous patients, it is proper that the trustees should set forth the reasons that have led to this decision. We are not unmindful of the great need existing in this State, as elsewhere, for larger provision for the incurables, both for their own relief and for the better protection of the community; but we have been impressed with the disadvantage of massing together those who soon must die, and also with the hardship that would inevitably result in their separation during their last days on earth from those who love them. Already in our larger cities there are many homes for incurable consumptives. More such are sure to be founded; for, besides the charity thus subserved, which happily appeals more and more forcibly and successfully to Christian civilization, there is now the added inducement of thus protecting the community from dreaded infection by properly caring for tuberculous patients too weak and sick to observe the simple rules necessary to insure their harmlessness to others.

Inasmuch, moreover, as the best and safest treatment of incurables does not demand more than can be easily afforded in any locality, there seems no necessity for the Commonwealth to undertake the task of providing for the care of incurable consumptives, a task more properly resting on the cities and towns where such patients belong. And, indeed, were the State to undertake to provide for them, two thousand hospital beds, instead of two hundred, would be needed. Such, then, are our reasons for not making the Hospital for Consumptives and Tubercular Patients a home of refuge for incurables. On the other hand, the advantages to the Commonwealth in having a hospital where consumptives can be cured, or at least have their disease arrested, are so plain

as to convince us that, although not definitely so expressed in the statutes, such must have been the intention of the Legislature authorizing the establishing of the hospital.

Although ours is the foremost State to make such provision, Massachusetts is not unaccustomed to leading the way in wise and beneficent measures for relieving the needs of her children. Moreover, in Europe, notably in Germany, such sanatoria have already proved their great usefulness. In this country, Dr. Trudeau in the Adirondacks and Dr. Bowditch in his Sharon Sanitarium,* have shown that incipient consumptives need not go abroad or even to the higher altitudes of the western States, or to the milder air of our Gulf or Pacific coasts, to find the blessing of renewed health.

Absence from home and the neighborhood of their friends is but a slight hardship in the case of patients who will shortly return in comparative health, or even in the case of those who, after failure to improve, may then return to spend their declining days among their own. For those who are steadily improving there is no disadvantage in associating together, even in large numbers. Indeed, in a community of such there is a mutual helpfulness in faithful following ways of living which in isolation would be dreary enough. Indeed, the cheer and good fellowship of recovering consumptives, added to the well-known inherent hopefulness of such patients, greatly surprise those who for the first time visit sanatoria.

But the main reason influencing the trustees to the decision mentioned has been the evident need of an institution devoted to the cure of tuberculous patients, and the equally evident impracticability of such being established except by the State. The larger cities, it is true, might severally undertake the establishing of such hospitals, but they would not have the great advantage of the invigorating air of our hill country, and the citizens of our cities and towns could not have equal rights in such hospitals. A State in-

* In illustration of the effect upon the medical profession of Dr. Bowditch's successful treatment of incipient consumptives, it is interesting to note that, when the opinion of the physicians of Massachusetts was asked as to where this hospital should be located, one-fifth of all who answered favored Sharon, where Dr. Bowditch's sanitarium is located, although Dr. Bowditch himself, among other experts, advised selecting a higher altitude.

stitution, on the other hand, can have the best situation, can offer equal advantages to all inhabitants of the State, can secure the best professional talent for its medical supervision, and, by demonstrating the curability of tuberculosis in its early stages, can stimulate general exertions towards the elimination of this preventable and yet most widespread disease. Such then are the considerations which have influenced the trustees in determining the character of the Massachusetts Hospital for Consumptives and Tubercular Patients.

In our previous report have been set forth the reasons for selecting the site in Rutland, and also a description of the buildings.

METHODS OF ADMINISTRATION.

The successful treatment of patients is of course the main object. Mindful of the fact that the superintendent of a hospital necessarily is occupied with administrative details, the trustees have arranged that the medical supervision of the patients shall be in the hands of expert physicians, whose duties shall also be to examine all patients, to decide the question of their physical fitness for admission, and again to decide when they shall be discharged from the hospital. The visiting physicians are to visit the patients at least once a week, and to have the entire charge of their treatment.

The superintendent and resident physician of the hospital, as the executive officer of the trustees, will have entire charge of the establishment. Although mainly occupied with the administrative details, his duty will be to insure the carrying out of the treatment of the visiting physicians. In this duty he will have the aid of the house physicians, acting as assistants to the visiting physicians.

The housekeeping and nursing will be under the charge of the matron. Only graduate nurses will be employed. For them a regular post-graduate course of lectures will be given, and thorough training in the special nursing of tuberculous patients. In this way, besides the direct advantages to patients in having the best possible service, there will result the indirect advantage of extending a more widespread knowledge of the most efficacious nursing of consumptives.

The trustees have great pleasure and satisfaction in announcing, as the visiting physicians, Dr. Vincent Y. Bowditch and Dr. Herbert C. Clapp; as superintendent, Dr. W. J. Marcley; and as matron, Miss M. E. Thrasher.

ADMISSION OF PATIENTS.

In accordance with the proclamation of His Excellency the Governor, the hospital was opened for the reception of patients Oct. 1, 1898. Patients are admitted only on the recommendation of the visiting physicians. For the convenience of those living in the eastern part of the State, the visiting physicians will examine applicants at the Boston office of the hospital, 181 Tremont Street, Dr. Bowditch on Wednesdays and Dr. Clapp on Saturdays, between the hours of 10 and 12 in the forenoon. Patients unable to present themselves either at the Boston office or at the hospital, where Dr. Clapp will be in attendance on Mondays and Dr. Bowditch on Fridays, may make special arrangements for admission by written applications to either of the visiting physicians.

CHARGE FOR PATIENTS.

In establishing the uniform charge of fifty cents a day for patients, the trustees have been guided by the following considerations: In view of the experience of other hospitals and sanitarium, the estimated expense to the State when the hospital is full will be from seven to ten dollars a week for each patient. As the trustees conceive, this hospital was not established for patients who can afford to pay as much as this, nor, on the other hand, is it in accordance with the evident intention of the Legislature or with the policy of other State hospitals to provide wholly gratuitous care. Were this done, the State, city and town pauper institutions would doubtless be relieved; but this hospital could not so fulfil its mission of succoring self-supporting, self-respecting citizens, who otherwise must succumb to tuberculosis. For such, the rate established of three dollars and a half a week is not more than would have to be paid anywhere for lodging and board. When the medical and nursing service, the medicines and special diet needed, are also included in this charge, it cannot be considered other than moderate and

reasonable. But unfortunately, as is often the case, the consumptive is the only wage earner or chief worker of the family. The family, thus deprived, can not only contribute nothing to the support of the patient, but only with greatest difficulty can support themselves. In such cases even most moderate charges cannot be met.

No private patients will be received who by payment of higher rates would be entitled to private rooms or special accommodations. The absolute equality of her children in the eyes of the State is too plainly the spirit of our heritage to allow any such distinction of purse.

With reference to the right of the trustees in their discretion to receive State patients, we quote from Statutes of 1895, chapter 503, the latter part of section 9 : —

The board of such inmates as have a legal settlement in some city or town shall be paid by said city or town if such patients are received at said hospital on the request of the overseers of the poor of said city or town. The trustees may in their discretion receive other patients who have no means to pay for treatment ; and the board of such patient shall be paid from the treasury of the Commonwealth.

We understand this to mean that the patients who may be received for treatment and have their board paid for from the treasury of the Commonwealth are “other” patients than such as have a legal settlement in some city or town in the Commonwealth. If we are correct in our understanding of this law, the number who can be received at the charge of the Commonwealth will naturally be very small.*

Patients desiring admission at the regular rates must each furnish a bond in the amount of one hundred dollars, signed by two responsible citizens, who thereby guarantee the payment of the charges, and also agree to remove the patient from the hospital upon the written request of the superintendent.

In general, patients will be received only for a limited time, as the visiting physician may advise ; and in all cases when it becomes evident that patients fail to improve under treatment, they will be discharged by the visiting physicians.

* Since writing this report the opinion of the Attorney-General has been received to the effect that a more liberal interpretation of this statute is allowable.

CONSTRUCTION OF THE HOSPITAL.

The Legislature of 1895 appropriated for the construction and equipment of the hospital \$150,000, and to this sum \$22,450 was added by the Legislature of 1898. The trustees deeply regret being obliged to report that they have exceeded this appropriation. Had they foreseen it earlier, they would not have attempted what now is seen to have been an impossible task. Perhaps no excuse is allowable, yet they deem it proper to state the exigencies that have caused the deficiency.

They confidently add that the completed building with its equipment and the appurtenant land shows that the Commonwealth has full value for the outlay. Everything has been done economically. The completed hospital has peculiar fitness for the work for which it is designated. The expense is not out of proportion to that of other hospitals. The building and finishing, exclusive of land, grading, roads, sewerage and engineering, is at as low a cost per bed as has been known anywhere. Great as has been the annoyance and disappointment as to the unexpected extras and the unforeseen cost of grading, the total cost is still very moderate.

The statutes, while limiting the amount that could be spent in establishing the hospital, also made it necessary to secure the approval of the Governor and Council of the plans for building adopted. As the fitness of the building depended much upon the location selected, we deemed it to be incumbent on us, as well as very helpful, to obtain the advice of the Governor and Council as to the location and amount of land. This was done early in 1896. A small land area would have sufficed for the hospital's immediate necessities; but, as was wisely pointed out to us by the Governor and Council, any present economy in amount of land would entail a much larger expense to the State in the future. The trustees were therefore urged to secure a more liberal amount of surrounding land than was at first proposed, and their own opinions coincided. This was done, but this land, besides its own cost, necessitated larger expenses for fencing and roadways and grading than befitted the appropriation. Then, as has been explained in our pre-

vious report, on account of the chosen site being within the drainage area of the metropolitan water works (although some fifteen miles distant from the storage basin, and separated therefrom by mill villages and summer hotels), the hospital, at the instance of the Metropolitan Water Board, was forced by the State Board of Health to construct a most expensive mode of sewage filtration. Doubtless this is a great advantage to all concerned, but it nevertheless occasioned an expense of \$10,000 more than otherwise would have been required.

But the most serious obstacle to keeping within the appropriation, as the trustees were in duty bound, and also as they were most firmly resolved to do, is to be found in the mistaken estimates of engineers as to the amount of grading absolutely necessary. Not until the work was well under way did they discover the necessity to spend 50 per cent. more for grading than had been estimated by the engineers. There were also mistakes and miscalculations made by the architects. Although the trustees had all had some experience in building, they were not architects or professional builders, and were therefore obliged to trust to the knowledge of their professional advisers. There was spent \$11,767.79 for engineers and architects and inspectors of work.

But underlying all these troubles the deficiency is due to having undertaken to build and equip a hospital of the prescribed size, suitable for the treatment of tuberculous patients, out of so small an original appropriation. The State has never before imposed an equally difficult task. It would have been better to have listened to those architects invited to compete, who asserted the impossibility of building according to the simplest requirements within the available funds. The trustees greatly regret not having been earlier convinced of this fact in time to have reported the difficulty to previous Legislatures, before having exceeded the appropriation.

The necessity of overrunning the appropriation was not discovered until the building was nearly completed. To have stopped the work then would have occasioned greater cost to the State and lasting detriment to the buildings.

Again, in the matter of furnishing the hospital. After careful study the trustees estimated the cost at \$15,000. Only \$8,000 was appropriated. And yet, after obtaining lower prices than ever have before been given to a public institution, and without many furnishings that are sorely needed (the laundry, for instance, being furnished with hand tubs only, and common flat-irons), the trustees are obliged to report having exceeded this special appropriation by \$559.38.

Another cause of deficiency has been the deduction from the original appropriation of the compensation paid to the trustees. This, as directed by the statutes, was fixed by the Governor and Council for the first year at \$1,200 to the chairman and \$800 to each of the other trustees. After the first year the chairman declined to accept more than was given to each of the others of the Board, and \$666.66 was paid to each for the ten months ending July 1, 1897, since which time the trustees have received no compensation. Under strict construction of the statutes authorizing the establishing of the hospital, perhaps this charge ought not to have been made upon the original appropriation.

Except for the necessity of asking for an additional appropriation of \$6,000 for the better equipment of the hospital, and of \$8,500 for expenses incurred in excess of appropriations, the trustees would have unalloyed pleasure in congratulating the Commonwealth upon the completion of a hospital which, in their judgment, reinforced by that of others more qualified to judge, is sure to be of immense advantage in rescuing lives otherwise doomed to long suffering and premature death. Even now other States are preparing to follow the example of Massachusetts in this direction, and to copy this hospital. The trustees are firmly convinced that in location, construction and preparation for service the Massachusetts Hospital for Consumptives and Tubercular Patients is a credit to the State. They believe that in all of these respects the hospital is sure to serve well its purpose, and to prove a source of increasing pride in its usefulness.

In order to complete the hospital so that it shall be a perfect plant for doing its work to best advantage, addi-

tional buildings should be erected, which manifestly could not be thought of within the original appropriation. The superintendent should have a separate cottage. The nurses should have a separate home. In view of the pioneer character of the hospital's mission, it doubtless was intended by the Legislature that the worth of the work should be demonstrated before authorizing these additional buildings.

But some immediate additions to the hospital seem absolutely necessary. A laundry room, properly built and equipped with labor-saving machinery, is greatly needed, and can be provided and equipped at a cost of \$3,500. Another immediate need is for a mortuary, which can be properly provided at a cost of \$1,500. Without it, in case of deaths the bodies will have to be prepared for burial, and meanwhile kept in the wards occupied by patients. Rubber matting, greatly needed for corridor floors, will cost \$300.

The account of all unpaid bills which are due and owing, and also a statement of all known claims made and not adjusted or not allowed, is annexed in Schedule B.

The payments made by the State Treasurer on account of the construction, showing the application of the appropriation therefor, as appears by the bills filed by the State Auditor, are shown in the annexed Schedule A.

For convenience of examination, we show in Schedule C, annexed: (1) the cost of the building, including architects' charges, plumbing, heating, lighting and furniture; (2), the cost of land, grading, roads, engineering, etc.; (3), trustees' compensation and expenses, and sundries.

After all, a hospital does not consist merely in buildings, however well adapted to the purpose. Besides the building there is needed a thoroughly organized corps of workers, each proficient in his own department and all able and willing to work well together. Much of the time of the trustees during the past year has been occupied in selecting these officers and servants, and, because of the uncertainty as to the time when the hospital would be finished, the salaries and wages of many of them of necessity antedated the opening of the hospital. And then, again, in order to keep the buildings in good condition during the first winter it was

necessary to keep up the fires, at great expense of labor and coal.

Thus heavy charges have been made on the appropriation for maintenance before patients were received. Moreover, as the hospital fills up only gradually, and as the average cost per patient per day or week can only be definitely determined after the hospital is fairly full, it is plain that only approximate estimates for the running expenses of the coming year can now be given. With our present information, we recommend the appropriation of \$40,000 for maintenance.

We recommend that the name of the institution be changed to "The Massachusetts Hospital for Tuberculous Patients."

Respectfully submitted,

ALFRED WORCESTER,
JOHN C. HAMMOND,
A. W. ESLEECK,
W. E. PARKHURST,
FRED. B. PERCY,

Trustees.

RUTLAND, MASS., Oct. 29, 1898.

FINANCIAL STATEMENT.

SCHEDULE A.

Miscellaneous and Supplies.

1895.

Oct.	1.	E. H. Barry, stationery,	\$17 50
	1.	T. O'Callaghan, rug,	17 00
	8.	A. H. Davenport, furniture,	539 00
	9.	Geo. H. Walker, map,	8 00
	15.	Stamped envelopes and clerk hire,	159 94
	16.	P. H. Chew, record book,	6 75
Nov.	1.	M. T. Bird, stationery,	7 00
	1.	J. H. Marble, repairing office,	12 07
	1.	H. H. Carter & Co., office supplies,	4 65
	2.	Richard Briggs, office supplies,	1 88
	2.	E. J. Fay, typewriting,	15 00
	16.	E. J. Fay, typewriting,	2 00

1896.

Jan.	30.	Jas. Richards, engraving record book,	5 00
April	2.	H. H. Carter & Co., stationery,	3 75
May	2.	Damrell & Upham, supplies,	11 80
June	30.	Kiggins & Tooker, cash book,	6 00
July	1.	E. S. Tyler, typewriting,	2 00
Sept.	3.	Brooks Bank Note Company, stationery,	31 45
	3.	Metcalf & Co., printing,	27 50
Oct.	6.	Edward Fire Extinguisher Company, fire ex- tinguishers,	8 00

1897.

July	10.	Wilson & Holden, seeds,	9 69
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 \$895 98
Trustees' Travelling Expenses.

1895.

Dec.	5.	J. C. Hammond, expenses to November 26,	\$33 95
	5.	F. B. Percy, expenses to November 26,	13 40
	5.	A. Worcester, expenses to November 26,	14 32
	5.	W. T. Carolin, expenses to November 26,	20 51

1896.

Jan.	30.	A. W. Esleeck, expenses to date,	42 83
June	20.	A. Worcester, expenses to date,	37 03
	20.	A. W. Esleeck, expenses to date,	16 63
July	30.	A. W. Esleeck, expenses to date,	30 93
	30.	W. T. Carolin, expenses to date,	43 20
Sept.	3.	J. C. Hammond, expenses to date,	145 07

Amount carried forward, \$397 87

Amount brought forward, \$397 87

1897.

April	5.	A. Worcester, expenses to March 13,	. . .	173 06
	5.	A. W. Esleeck, expenses to March 17,	. . .	32 78
June	5.	A. W. Esleeck, expenses to Saranac and Boston,		42 16
July	10.	J. C. Hammond, expenses to date,	. . .	165 01
	31.	W. T. Carolin, expenses to date,	. . .	93 85
Nov.	12.	A. Worcester, expenses to date,	. . .	123 00
	12.	A. W. Esleeck, expenses to date,	. . .	30 56
Dec.	18.	W. E. Parkhurst, expenses to date,	. . .	10 56

1898.

Jan.	22.	A. W. Esleeck, expenses to date,	. . .	25 03
March	19.	J. C. Hammond, expenses to date,	. . .	98 11
Oct.	31.	A. W. Esleeck, expenses to date,	. . .	62 41
	31.	J. C. Hammond, expenses to date,	. . .	51 94
	31.	F. B. Percy, expenses to date,	. . .	87 90
	31.	W. E. Parkhurst, expenses to date,	. . .	13 84
	31.	A. Worcester, expenses to date,	. . .	56 81

\$1,464 89

*Paid for Land.***1896.**

Jan.	23.	G. W. Cowden, 23 acres and buildings,	. . .	\$5,500 00
	23.	Sarah E. Monroe, 18 acres,	. . .	900 00
	23.	J. B. Wells, 13 $\frac{1}{4}$ acres,	. . .	450 00
	23.	D. R. Wheeler, 59 acres,	. . .	2,500 00
	23.	B. W. Potter, $\frac{2}{10}$ acre,	. . .	10 00
	23.	Mary G. Smith, 1 $\frac{1}{10}$ acres,	. . .	200 00
	30.	Horace Hobbs, examining titles,	. . .	43 00
April	2.	Louis M. Hoff, notary,	. . .	5 00
	2.	Walter H. Bartlett, land,	. . .	1,000 00
July	1.	Webb Granite Company, 13 posts,	. . .	12 25
	1.	D. W. Porter, drawing deeds,	. . .	3 00
	1.	E. S. Tyler, drawing deeds,	. . .	4 12
	1.	H. B. Wilder, recording taking land,	. . .	1 25
	1.	H. B. Wilder, recording taking land,	. . .	5 45
	1.	H. B. Wilder, filing plan,	. . .	50
	1.	H. B. Wilder, legal services,	. . .	1 55
	1.	H. B. Wilder, legal services,	. . .	1 10
	1.	M. D. Porter, use of team,	. . .	9 50
	1.	D. R. Wheeler, use of team,	. . .	14 75
	1.	C. R. Bartlett, use of team,	. . .	1 00
Dec.	18.	L. A. Taylor, assignee fees, land of M. & P. Riley,	. . .	30 00
	18.	W. H. Bartlett, consideration of deed,	. . .	150 00

Amount carried forward, \$10,842 47

Amount brought forward, \$10,842 47

1897.

Feb.	26.	C. T. Davis, examining titles,	15 00
Oct.	6.	R. J. Stevenson, land for sewer bed,	150 00

\$11,007 47

D. L. Nihin, land damages for land taken, not yet adjusted.

*Engineers and Employees.***1896.**

Jan.	30.	Thompson & Wheeler, engineers,	\$610 71
April	2.	Thompson & Wheeler, engineers,	667 54
June	30.	Thompson & Wheeler, engineers,	537 00
July	1.	G. P. Hapgood, inspecting on road,	86 00
Sept.	1.	Thompson & Wheeler, engineers,	771 32
	1.	G. P. Hapgood, inspecting,	88 00

1897.

Jan.	16.	Thompson & Wheeler, engineers,	932 43
Feb.	11.	J. F. Curtis, engineering services,	296 24
	26.	G. P. Hapgood, inspecting,	130 00
May	1.	G. P. Hapgood, inspecting,	186 00
June	5.	G. P. Hapgood, inspecting in May,	60 00
	5.	J. D. Sisson, services in May,	52 04
July	10.	J. D. Sisson, inspecting plumbing,	31 18
	10.	G. P. Hapgood, general inspector,	60 00
	10.	Thompson & Wheeler, service,	1,226 14
Aug	6.	G. P. Hapgood, inspecting,	60 00
	6.	E. E. Lawrence, night watchman,	63 00
	6.	J. D. Sisson, inspecting plumbing,	67 61
Sept.	13.	G. P. Hapgood, inspector,	60 00
	13.	E. E. Lawrence, night watchman,	54 25
	13.	J. D. Sisson, plumbing inspector,	37 01
Oct.	6.	E. E. Lawrence, night watchman,	52 50
	6.	G. P. Hapgood, inspector,	50 00
Nov.	12.	E. E. Lawrence, night watchman,	54 25
Dec.	18.	G. P. Hapgood, inspector,	28 00
	18.	J. D. Sisson, plumbing inspector,	25 98
	18.	E. E. Lawrence, night watchman,	26 25

1898.

Jan.	22.	E. E. Lawrence, night watchman,	62 00
	22.	G. P. Hapgood, inspector,	54 25
Feb.	26.	E. E. Lawrence, night watchman,	62 00
	26.	G. P. Hapgood, inspector,	54 25
March	19.	J. D. Sisson, plumbing inspector, in full,	34 00
	19.	W. F. Moore, engineer,	100 00
July	28.	S. Homer Woodbridge, services on heating and ventilating,	763 86
	28.	Thompson & Wheeler, engineers,	773 93

\$8,217 79

*Architects.***1896.**

May	1.	Gardner, Pyne & Gardner,	.	.	.	.	\$250 00
	1.	Wm. Chester Chase,	.	.	.	.	250 00
	1.	Wm. Atkinson,	.	.	.	.	250 00
	1.	Fuller, Delano & Frost,	.	.	.	.	250 00
	1.	Schweinfurth,	.	.	.	.	250 00
Sept.	3.	Wm. Chester Chase, on account,	.	.	.	.	500 00
	30.	Wm. Chester Chase, on account,	.	.	.	.	1,000 00
Nov.	30.	Professor Chandler,	.	.	.	.	300 00

1897.

May	1.	Wm. Chester Chase, on account,	.	.	.	.	500 00
							<hr/>
							\$3,550 00

*Constructing Roads.***1896.**

July	1.	I. A. Taylor, constructing road, on account,	.	.	.	.	\$1,500 00
Sept.	14.	I. A. Taylor, constructing road, on account,	.	.	.	.	1,500 00
	14.	I. A. Taylor, constructing road, on account,	.	.	.	.	840 00
	14.	I. A. Taylor, constructing road, on account,	.	.	.	.	840 00

1897.

Jan.	1.	I. A. Taylor, on account of roads,	.	.	.	.	1,034 13
							<hr/>
							\$5,714 13

*Grading.***1896.**

Sept.	14.	I. A. Taylor, grading,	.	.	.	.	\$800 00
	14.	I. A. Taylor, grading,	.	.	.	.	1,140 00
	14.	I. A. Taylor, grading,	.	.	.	.	1,860 00
	14.	I. A. Taylor, extra work,	.	.	.	.	99 02

1897.

Jan.	1.	I. A. Taylor, on account of excavations,	.	.	.	.	1,854 39
May	5.	I. A. Taylor, on account of excavations,	.	.	.	.	243 00

1898.

July	28.	I. A. Taylor, grading,	603 24
							<hr/>
							\$6,599 65

*Constructing Fence.***1896.**

Sept.	14.	I. A. Taylor,	\$261 75
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*Water Works, Branch to Hospital, Hydrants, etc.***1896.**

Sept.	14.	I. A. Taylor, water pipe,	\$658 44
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Amount carried forward, \$658 44

Amount brought forward, \$658 44

1897.

April	5.	H. K. Barnes, hose and nozzle,	120 00
	5.	Ludlow Valve Manufacturing Company, hydrants,	193 77
May	5.	I. A. Taylor, water pipe and hydrant,	746 25
	5.	I. A. Taylor, balance water pipe, 1896, 10 per cent.,	73 16

\$1,791 62

*Sewer and Drainage.***1896.**

July	31.	Geo. N. Cowden, digging test pits,	\$7 95
Sept.	1.	I. A. Taylor, construction of sewer,	1,288 00
	14.	I. A. Taylor, drainage,	157 50
Dec.	1.	I. A. Taylor, sewer disposal,	1,802 00

1897.

May	5.	I. A. Taylor, contract, sewer,	1,132 00
	5.	I. A. Taylor, drainage system,	300 00
June	5.	I. A. Taylor, contract, sewer,	2,500 00
July	10.	I. A. Taylor, account sewer contract,	2,000 00
	10.	I. A. Taylor, drainage,	500 00
Aug.	6.	I. A. Taylor, sewer contract (in full),	478 00
	6.	I. A. Taylor, drainage,	700 00

\$10,865 45

*Mather & Whiting, Contractors.***1896.**

Sept.	1.	Excavating,	\$4,357 10
Nov.	2.	Excavating,	5,617 65

1897.

Jan.	1.	On account,	2,910 83
	9.	On account,	1,158 97
March	6.	On contract,	4,193 05
April	5.	On contract,	2,000 00
May	5.	On contract,	3,394 05
June	5.	On contract,	8,961 00
July	10.	On contract,	7,700 00
Aug.	6.	On contract,	6,800 00
Sept.	13.	Contractor,	7,000 00
Oct.	6.	Contractor,	6,500 00
Nov.	12.	Contractor,	3,000 00
Dec.	18.	Contractor,	4,000 00

1898.

Feb.	26.	Contractor, in full,	6,352 95
Oct.	30.	Contractor, account extras,	798 08

\$74,743 68

*Jackson & Co.***1898.**

July	28.	Fire stops,	\$275 00
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*Trustees' Compensation.***1896.**

Dec.	3.	J. C. Hammond,	\$1,200 00
	3.	A. Worcester,	800 00
	3.	F. B. Percy,	800 00
	3.	W. T. Carolin,	800 00
	3.	A. W. Esleeck,	800 00

1897.

Oct.	6.	J. C. Hammond, to July 1, 1897,	666 66
	6.	A. Worcester, to July 1, 1897,	666 66
	6.	F. B. Percy, to July 1, 1897,	666 66
	6.	W. T. Carolin, to July 1, 1897,	666 66
	6.	A. W. Esleeck, to July 1, 1897,	666 66

\$7,733 30

*Town of Rutland.***1897.**

Jan.	9.	Water rent (and extra \$10.62),	\$260 62
July	31.	Water rent,	250 00
Oct.	6.	Water rent,	250 00
Dec.	18.	Water rent,	500 00

\$1,260 62

*Heating and Ventilating.***1897.**

June	8.	A. B. Franklin & Co., account heating and ventilating,	\$1,190 00
July	31.	A. B. Franklin & Co., account heating and ventilating,	5,695 00
Oct.	6.	A. B. Franklin & Co., account heating and ventilating,	2,550 00
Nov.	12.	A. B. Franklin & Co., account heating and ventilating,	1,020 00

1898.

July	28.	A. B. Franklin & Co., on account,	3,500 00
Oct.	26.	A. B. Franklin & Co., on account (in full),	979 34

\$14,934 34

*Electric Wiring.***1897.**

April	5.	R. T. Oakes & Co., wiring,	\$300 00
Aug.	6.	R. T. Oakes & Co., wiring,	300 00

\$600 00

*Plumbing.***1897.**

June	8.	T. Costello & Co.,	.	.	.	.	.	.	\$960 00
July	31.	T. Costello & Co.,	.	.	.	.	.	.	720 00
Aug.	6.	T. Costello & Co.,	.	.	.	.	.	.	600 00
Nov.	12.	T. Costello & Co.,	.	.	.	.	.	.	2,000 00

1898.

Jan.	22.	T. Costello & Co.,	.	.	.	.	.	.	1,000 00
July	28.	T. Costello & Co.,	.	.	.	.	.	.	1,000 00
Oct.	26.	T. Costello & Co. (in full),	.	.	.	.	.	.	804 33

\$7,084 33*Electric Lights. Special Appropriation, \$5,000.***1898.**

Oct.	1.	R. T. Oakes & Co., on account,	\$3,000 00
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*Ice House. Special Appropriation, \$500.***1898.**

July	20.	Mather & Whiting,	\$500 00
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*Gutters. Special Appropriation, \$1,300.***1898.**

July	20.	Mather & Whiting,	\$1,300 00
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*Grading. Special Appropriation, \$500.***1898.**

Aug.	1.	P. S. O'Connor,	\$34 50
	1.	W. M. Curtis,	11 25
	1.	M. D. Potter,	.	.	.	.	.	.	16 00
	1.	Clarence O'Connor,	.	.	.	.	.	.	15 75
Sept.	1.	M. D. Potter,	.	.	.	.	.	.	16 75
Oct.	1.	M. D. Potter,	.	.	.	.	.	.	100 54
	1.	P. S. O'Connor,	.	.	.	.	.	.	18 90

\$213 69*Furnishings. Special Appropriation, \$8,000.***1898.**

Sept.	1.	J. C. McFadden & Co., shades,	.	.	.	.	.	\$192 20
	1.	The Derby Desk Company, desk,	.	.	.	.	.	23 00
	1.	Abram French & Co., china,	.	.	.	.	.	10 63
	1.	Cobb, Burgett & Co.,	.	.	.	.	.	145 02
	1.	Wakefield Rattan Company, basket,	.	.	.	.	.	4 75
	1.	Putnam, Davis & Co., books,	.	.	.	.	.	7 92
	1.	Clark Sawyer Company, china,	.	.	.	.	.	33 85
	1.	Thos. O'Callaghan, rugs,	.	.	.	.	.	4 85
	1.	Putnam Company, beds,	.	.	.	.	.	494 75

Amount carried forward, \$916 97

Amount brought forward, \$916 97

1898.

Sept.	1.	R. H. White & Co., rugs,	12 99
	1.	Shepard, Norwell & Co., dry goods,	45 07
	1.	Shepard, Norwell & Co., dry goods,	30 32
Oct.	1.	Jones, McDuffee & Stratton,	657 96
	1.	The Cobb-Buzzell Company,	670 41
	1.	Shepard, Norwell & Co.,	1,863 58
	1.	Allen, Thompson, Whitney Company,	704 05
	1.	Henry A. Turner & Co.,	1,750 00
	1.	Hartford Woven Wire Mattress Company,	415 00
	1.	R. H. White & Co.,	376 79
			<hr/>
			\$7,443 14

Recapitulation.

Miscellaneous and supplies,	\$895 98
Travelling expenses, trustees,	1,464 89
Paid for land,	11,007 47
Engineers and employees,	8,217 79
Architects,	3,550 00
Constructing roads, grading and fencing,	12,575 53
Water works,	1,791 62
Sewer and drainage,	10,865 45
Mather & Whiting, contractors,	74,743 68
Jackson & Co., fire stops,	275 00
Trustees' compensation,	7,733 30
Town of Rutland, water rent,	1,260 62
Heating and ventilating,	14,934 34
Electric wiring,	600 00
Plumbing,	7,084 33
Electric lights, special appropriation (\$5,000),	3,000 00
Ice house, special appropriation (\$500),	500 00
Gutters, special appropriation (\$1,300),	1,300 00
Grading, special appropriation (\$500),	213 69
Furnishing,	7,443 14
	<hr/>
	\$169,456 83

SCHEDULE B.*Unpaid Bills on Construction.*

Mather & Whiting, contractors, extras, balance of,	\$2,411 05
I. A. Taylor, balance due,	1,173 63
A. B. Franklin's controverted claim as an extra	
for certain traps,	\$183 38
Interest claim,	151 51
	<hr/>
	334 89
W. Chester Chase, architect, claims a larger bill, but offers	
to adjust at \$1,600,	1,600 00

D. Nihin's unadjusted claim for land damages. He desires to remove his house. This would be satisfactory to the trustees. In that event the damages should not exceed, . \$1,000 00
 He claims three times that amount. He has offered to refer the matter to arbitration, which will be done if the Attorney-General shall approve thereof.

Unpaid Bills for Furniture (Special Appropriation).

Derby Desk Company,	\$28 50
Allen, Thompson, Whitney Company,	56 50
Torrey, Bright & Capen Co.,	15 00
Shepard, Norwell & Co.,	33 64
The Cobb-Buzzell Company,	42 65
Jones, McDuffee & Stratton,	8 48
Damon Safe and Iron Works Company,	40 00
Conant Bros.,	18 75
Denholm & McKay Co.,	4 80
Jordan, Marsh & Co.,	4 15
Barnard, Sumner, Putnam Company,	31 15
Duparquet, Huot & Moneuse Co.,	832 62
	<hr/>
	\$1,116 24
Balance of appropriation,	556 86
	<hr/>
Balance not provided for,	\$559 38

Electrical Light Appropriation.

The balance of the contract due R. T. Oakes & Co., and sundry small bills for incidentals of this electrical equipment, will all be within the appropriation of \$5,000.

SCHEDULE C.

1. Cost of Buildings, etc., including Unadjusted Bills if allowed.

Main contract, Mather & Whiting (including extras, \$798.08),	\$74,743 63
Unpaid agreed balance due,	2,411 05
Paid architects,	3,550 00
Plumbing,	7,084 33
Heating and ventilating,	14,934 34
Electric wiring during construction,	600 00
Electric lighting,	5,000 00
Furnishing, paid,	\$7,443 14
Furnishing, unpaid bills,	1,116 24
	<hr/>
	8,559 38
	<hr/>
Amount carried forward,	\$116,882 73

Amount brought forward, \$116,882 73

Alteration of gutters,	1,300 00
Ice house,	500 00
Extra fire stops in building,	275 00
Water works, branch main, hydrants, etc.,	1,791 62

\$120,749 35

W. C. Chase's bill, if allowed,	1,600 00
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A. B. Franklin's controverted claim, if allowed,	334 89
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Also claim made for payment of stairs and look-out on water tower on the hospital lands,	1,000 00
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\$123,684 24

2. *Cost of Land and Work upon it.*

Paid for land,	11,007 47
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Paid to I. A. Taylor for roads,	\$5,714 13
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Paid to I. A. Taylor for grading,	6,599 65
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Paid to I. A. Taylor for fencing,	261 75
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12,575 53

Balance still due him,	1,173 63
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Engineers and labor employed by them, etc.,	8,217 79
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Sewerage and drainage,	10,865 45
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Estimated land damages of D. Nihin, \$1,000 to \$1,500,	1,500 00
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The special appropriation of \$500 for grading will all be used,	500 00
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\$45,839 87

Trustees' Expenses, Services and Sundries.

Compensation,	\$7,733 30
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Expenses,	1,464 89
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Miscellaneous supplies,	895 93
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Town of Rutland, water rent, accruing before Jan. 1, 1898,	1,260 62
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\$11,354 74

Summary, including the Unadjusted and Controverted Claims.

Building and equipment,	\$123,684 24
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Land and work upon it,	45,839 87
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Expenses and sundries,	11,354 74
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Total,	\$180,878 85
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A SUPPLEMENT TO

THE SECOND ANNUAL REPORT

OF

THE TRUSTEES

OF THE

MASSACHUSETTS HOSPITAL FOR

CONSUMPTIVES AND TUBERCULAR PATIENTS.

DECEMBER 31, 1898.

BOSTON :

WRIGHT & POTTER PRINTING CO., STATE PRINTERS,

18 POST OFFICE SQUARE.

1899.





Commonwealth of Massachusetts.

SUPPLEMENTARY REPORT.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

The trustees herewith submit a supplementary report, as promised in the opening page of the second annual report, submitted Oct. 29, 1898.

A statement of the disbursements of the \$20,000 appropriated for current expenses by Statutes of 1898, chapter 492, appears in the annexed Schedule A.

The total income to date from patients who are able to pay is \$1,319.50, which has been applied to current expenses in the manner appearing in the annexed Schedule B.

Bills incurred and maturing in January are: water rent, \$500; bills for coal, about a quarter of which is on hand, \$1,500.

An inventory of supplies on hand appears in the annexed Schedule C.

Admissions have been at the rate of about 1 patient per day. Eighty-six patients are now at the hospital, of whom 60 pay the required \$3.50 per week and 26 are unable to pay anything. As yet no persons have been received on the application of the overseers of the poor of any city or town. Many applications of this kind may, however, be expected as soon as the hospital becomes more widely known.

The opinion of the Attorney-General, referred to in a foot-note to page 8 of the second annual report, is appended. His wise interpretation of Statutes of 1895, chapter 503, section 9, enables the trustees to receive cases deemed suitable for treatment, even if they are unable to pay, and if the

overseers of the poor of the place of settlement for any reason omit or decline to request admission at the charge of the place of settlement.

The physicians of the medical staff append their report of the three months which have elapsed since the opening, Oct. 1, 1898. It is a report which confirms the confidence of the trustees in the value of this work to the Commonwealth.

Respectfully submitted,

ALFRED WORCESTER,
JOHN C. HAMMOND,
A. W. ESLEECK,
W. E. PARKHURST,
FRED'K B. PERCY,

Trustees.

SCHEDULE A.

A statement of the disbursements of the appropriation for current expenses for a portion of the year 1898:—

Appropriation,	\$20,000 00
Pay roll,	\$8,842 40
Groceries,	2,529 55
Fuel,	1,776 60
Teaming,	1,351 10
Miscellaneous,	2,399 14
Repairs,	1,271 70
Pharmacy supplies,	372 00
Lumber and hardware,	225 59
Engineer's supplies,	407 37
Office supplies,	196 72
Unpaid bills now due,	626 83
	<hr/>
	\$20,000 00

SCHEDULE C.

Inventory of supplies on hand Dec. 31, 1898: —

Provisions,	\$400 00
Fuel,	421 00
Office supplies,	146 40
Pharmacy supplies,	292 82
Lumber,	12 65
Hardware,	24 50
Miscellaneous,	324 26
Engineer's supplies,	160 95
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	\$1,782 58

OPINION OF THE ATTORNEY-GENERAL.

COMMONWEALTH OF MASSACHUSETTS,
OFFICE OF THE ATTORNEY-GENERAL, BOSTON, NOV. 16, 1898.

Hon. JOHN C. HAMMOND, *Chairman, Northampton, Mass.*

DEAR SIR:—I have examined the question submitted by your letter of the 8th, touching the construction of Sts. 1895, c. 503, § 9. The section is as follows:—

The charges for the support of the inmates of said hospital as are of sufficient ability to pay for the same, or have persons or kindred bound by law to maintain them, shall be paid by such inmates, such persons or such kindred at a rate to be determined by the trustees of said hospital. The board of such inmates as have a legal settlement in some city or town shall be paid by said city or town if such patients are received at said hospital on the request of the overseers of the poor of said city or town. The trustees may in their discretion receive other patients who have no means to pay for treatment; and the board of all such patients shall be paid from the treasury of the Commonwealth.

I am of opinion that the section is to be construed more liberally than as is suggested in your letter. The Hospital for Consumptives and Tubercular Patients is not a pauper institution, nor is it a place to which persons may be committed by a court or by a municipal board. It is a public charity, established for the benefit of persons afflicted with tubercular diseases, particularly those as to whom there is some hope of recovery, who seek to avail themselves of the treatment it is intended to afford.

The section provides for the admission, first, of those who are able to pay the charges therefor; second, of those whose admission is requested by overseers of the poor in cities and towns; and, third, of other persons. It is not probable that overseers of the poor will avail themselves to any con-

siderable extent of the privilege of sending patients to the hospital at the expense of their cities or towns. There will be, however, many persons having a settlement within the Commonwealth who are deserving of the benefits of the hospital, but who have not the means to pay for treatment. I think it was the intention of the Legislature to authorize the trustees, in their discretion, to admit such persons without subjecting them to the stigma of pauperism.

Even if construed technically, the words "other patients" in the last clause are not exclusive of all persons who have a legal settlement in some city or town, but only of those who, having such a settlement, "are received at said hospital on the request of the overseers of the poor of said city or town."

Very truly yours,

HOSEA M. KNOWLTON,

Attorney-General.

VISITING PHYSICIANS' REPORT.

In offering a report of the work accomplished at the hospital since its opening early in October, it would of course be impossible for the physicians to make definite statements as to its efficacy in arresting the course of a disease like consumption, which, under the most favorable conditions, requires at least many months of careful watching and treatment before lasting results can be obtained.

It may be said, however, with perfect certainty, that, from what has been accomplished thus far, the future success of the hospital as a great advance in the methods of treating consumption is insured, provided that proper means are afforded the physicians to carry out plans which will place the Rutland Hospital on the same basis as that of the great sanatoria abroad, where the successful treatment of consumption by such methods has been proven for many years.

It has been a source of gratification and surprise to the physicians to see how quickly and contentedly the patients have adopted the special hygienic methods used for treatment; viz., almost constant life in the open air, whether by walking or reclining on the piazzas, and the ingestion of nourishing food. The remarkable change in the aspect of these patients after even a short stay at the hospital would convince the most casual observer of the efficacy of the treatment upon the general condition of the patient.

The moral effect of the somewhat military discipline necessary to any hospital is a marked factor in accomplishing here what it is almost impossible to bring about except in rare cases when treating the patient at home, to say nothing of the beneficial effect of the hygienic and climatic influence

of a hospital situated as this is, at an altitude of about twelve hundred feet, with a southerly exposure protected from the coldest winter winds.

The Rutland Hospital, if conducted upon the generous plan which the physicians hope for, has, they believe, a great future before it, not only as a benefit to the individual, but as an object lesson to the whole community to prove the value and necessity of fresh air and good food for not only the cure but prevention of disease.

From experience in other institutions, it has been most gratifying to find that the patients, after leaving, not only continue to practise the rules laid down for themselves, but teach them to their families and friends. This feature is already beginning to show itself at Rutland; and patients who at first shrank at the idea of lying out in the open air and of having open windows at night, now not only recognize the value of such treatment, but enjoy it.

The experience at Rutland, moreover, in another particular entirely coincides with that of other observers in the sanatorium treatment of consumption. There exists in the minds of many who are really ignorant of the true nature of these sanatoria a prejudice against the idea of segregation of consumptives in an institution, on account of its supposed depressing effect. This idea is a natural one at first thought, but experience proves the objection to be absolutely *nil* when compared with the advantages to be gained. As a matter of fact, moreover, there is an atmosphere of good humor and cheerfulness about the patients most of the time, most striking and encouraging to see. Depression occasionally occurs, but as a rule it arises from causes other than the mere association with other sick people; and a visit is rarely made when sounds of laughter and cheerful conversation cannot be heard in the wards of the hospital at any time in the day; and after the first few days of a patient's stay there is rarely any complaint made indicating dissatisfaction with his surroundings.

The physicians make their most urgent appeal that no funds shall be lacking to make the Rutland Hospital as far-reaching in its influence as possible, and an honor to the State.

Massachusetts has been the first to establish a State institution founded upon the principles of the now great sanitarium in Europe. It remains for her to give generous and enthusiastic support to what is now but in its infancy, but which by growth can be of incalculable value to the Commonwealth.

VINCENT Y. BOWDITCH, M.D.,

HERBERT C. CLAPP, M.D.,

Visiting Physicians.

THE THIRD ANNUAL REPORT
OF
THE TRUSTEES
OF THE
MASSACHUSETTS HOSPITAL FOR
CONSUMPTIVES AND TUBERCULAR PATIENTS,
AT RUTLAND.

SEPTEMBER 30, 1899.

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Commonwealth of Massachusetts.

REPORT OF THE TRUSTEES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

The supplement to the second annual report of this Board appeared in January last, and with the beginning of October the first year of the Massachusetts Hospital for Tubercular Patients comes to a close. Bold as was the inception of this, the first public hospital for tuberculous patients in this country, its past twelve months have justified its building and more than verified the predictions of its enthusiastic friends. Of a recent meeting in New York, at which the subject of State aid for consumptives was discussed, a well-known physician says : —

There was practical unanimity upon the fundamental idea of State aid in meeting (or helping to meet) this great problem. I believe the value of the example set by your own State can scarcely be estimated at its true value. Massachusetts ought to be heartily congratulated upon her work, and I frankly confess that when I drove down the mountain side from Rutland to Worcester that bright morning last spring, I secretly wished I had sprung from her soil.

Within another two years a similar institution, modelled after this hospital, will be in working order in an adjoining State. However well conceived a building and its accessories may be, until put to the test of practical use, none can rightfully commend it. To say that the hospital is perfectly adapted to our demands is not far from the truth. Its very

plan of construction makes economy of administration difficult of attainment. This hospital is now and ever will be a conclusive proof of the value of hyperaëration, and may in time offer statistics which will settle the vexed question of climate in the treatment of phthisis. Since February the hospital has been full to overflowing, and the waiting list is ever increasing; and, until some necessary improvements are made, the hospital can never accommodate quite its full quota of two hundred patients.

Of the imperative needs of this hospital we beg to call your attention to two. The class of patients and their physical condition, many only slightly indisposed, render the problem of their amusement a most important one. There is no place for religious services, for lectures or for the assembling for various purposes. To remedy this, we recommend the building of an assembly hall, according to plan submitted by the architect, the cost of which shall not exceed \$9,000.

Four small dining rooms seemed in the beginning the most wise method; but experience has shown that in one large dining room, near to the kitchen, food can be served more expeditiously, more economically and in more satisfactory condition than when the distance for carrying it is greater. It is a maxim of the medical profession that the meal hours should be the happiest and brightest of the day, and the gathering together in one large room will be looked forward to with eagerness by all its inmates. Its cost will not be far from \$9,000.

We will submit plans for these new additions feeling confident that they will meet with your approval. The construction of these two buildings will give us room for at least twenty additional patients.

To the appropriation for dining room and assembly hall a sum estimated at \$5,000 should be added, for incidental construction; and this is very much needed. The following particulars may be enumerated:—

1. The furniture and bedding have been barely sufficient for the needs from day to day. Twenty-five more beds, bedding and chairs, etc., are needed to accommodate the number of inmates. Kitchen furniture, crockery and other

articles have been merely sufficient for the present time, without any reserve.

2. Of blankets needed for wrapping the patients when out of doors in winter there should be an additional stock.

3. A moderate amount of grading should be done east of the hospital.

4. The water pipe should be extended to the Cowden house and barn, to furnish the necessary water supply for each and for washing of carriages.

5. Some small repairs are needed in the farm house and the farm barn, but not of great amount; and the same is true of the Nihin house, both of which are absolutely needed for employees.

6. Some painting should be done.

7. About fifty acres of the farm land should be graded, freed from scattered stones and the remnants of stone walls. The same is true of the roadside along the southerly edge of the hospital land. If the heavier work were done by a small expenditure for regular labor, it is believed that a few acres could be cultivated each year, through the aid of the cheerful labor for two or three hours of a small number of the men who are patients. They are very glad of the outdoor exercise in the garden, and we are advised by the medical staff that such exercise is a favorable element in the treatment.

We cannot refrain from quoting with commendation and unanimous approval what the Medical Board have submitted to the trustees on two vital points in hospital management:—

First, as to the subject of medical assistants. We have been unusually fortunate in our first year in obtaining the services of two excellent young men who have virtually given their services to the State; a most commendable thing on their part, but which I feel should not continue, inasmuch as I deem it an injustice to them, apart from any other consideration. It is extremely difficult, moreover, to get *proper* men to supply their places under present conditions, a fact of which I am unfortunately only too well aware, since the illness of my assistant, Dr. Dunham, which has put me to great inconvenience, even though the kind assistance of Dr. Marcle and Dr. Butler has relieved me of much that otherwise would have been impossible to cope with. In many respects this hospital is unique in its method of management, and

for that reason alone demands special methods not pursued elsewhere. Inasmuch as the visiting physicians cannot be in daily attendance, as in most hospitals, it is of vital importance that men possessing special qualities of mind and heart should be selected for the position of assistants; an ordinary house officer will not do. We must recognize the fact that we need intelligence in the position, and for this reason we must offer adequate salaries. In the hospital at Long Island in Boston harbor, the first assistant is paid a salary of \$1,200 a year; the second assistant, \$900. At the Foxborough Hospital for Inebriates the first assistant receives \$1,200 a year. Although the active work in attendance upon the acutely sick in the Long Island hospital is doubtless heavier than at Rutland, yet, as I have said before, intelligence, judgment and tact are essentials; and I am convinced that, unless we offer a generous salary, we shall be continually hampered by a lack of proper material to select from, as we already have had reason to know. In short, for these two positions I think a salary of \$600 *at least* should be offered for the first year, and if he proves satisfactory, the assistant should receive an increase of his salary. To my mind \$800 is none too large to offer to the kind of men we wish; and they should be capable of treating whatever illnesses arise, thus avoiding the method of transferring patients to the superintendent in case of special illness, which I believe to be subversive of proper hospital discipline.

Second, having heard that proposals have been made to enlarge the hospital for a much greater number of patients, I wish to most earnestly use all my influence against such a measure. The largest sanatoria for consumptives abroad have only two hundred patients, with a corps of assistants. We have already a very large number to control, and, moreover, it would be impossible for the visiting physicians to do justice to a larger number, for already they have difficulty in making the necessary observations and examinations thoroughly. To increase the number will only tend to make the institution too bulky to accomplish the desired end, and inefficient work will be the result. Personally, even with giving often much more time to the work than originally agreed upon, and although cheerfully done, I feel it oftentimes very difficult to keep sufficiently in touch with the patients, in consequence of the number. With the temporary disability of my assistant, this condition is naturally much increased, and I therefore feel confident that if the hospital is enlarged it will injure itself by its own bulk.

I sincerely trust this plan may not be carried into effect, at least until after a number of years have passed, and the success of the experiment proved beyond question.

The care of the extensive grounds and the proper utilization of its farming facilities have seemed sufficient reason for adding to the hospital force a practical farmer. We think the saving to the State in the poultry farm alone, which is about to be established, will more than offset the salary paid. In this way all waste from kitchen and hospital tables will be used, thereby lessening the cost of feed for the fowls.

In our second annual report the trustees said: "Moreover, as the hospital fills up only gradually, and as the average cost per patient per day or week can only be definitely determined after the hospital is fairly full, it is plain that only approximate estimates for the running expenses of the coming year can now be given. With our present information, we recommend the appropriation of \$40,000 for maintenance." Our premises were wrong, for the rapid filling up of the hospital surprised everyone, and a careful examination of the weight charts will explain why the cost for feeding patients was underestimated. Milk *ad libitum*, eggs, sometimes to the extent of six daily, with three substantial meals, add very materially to the cost of maintenance. This is and ever must be an institution for incipient cases, and this means people who need and must have abundance of nourishing food. In all other institutions there is a fair proportion of patients who eat practically nothing, and the cost per patient as such is necessarily small. The success of this hospital must rest largely upon our food supply, which is not second in importance to the supply of fresh air. The number of free patients, liberally estimated in the beginning, has far exceeded it, and now are about thirty per cent. of the whole number. We have exceeded our appropriation, but only for the above reason, and we should not have proved ourselves faithful servants of this Commonwealth if we had carried out any but a most generous policy.

No greater loss could have come to any Board than that which was occasioned by Dr. Alfred Worcester's resignation. Bringing, as he did, accurate knowledge of sanatoria and their purposes, and with enthusiasm for the work, he has labored unceasingly for it, and more to him than to any one member is due its successful beginning.

In the personnel of the hospital staff, its officers, its superintendent, its matron, and their co-workers, the trustees feel that the State is to be congratulated, and in their hands the future welfare is secure.

We recommend for the coming year the following appropriations : —

Estimates for ensuing year : —

Deficit, 1899,	\$12,000
Appropriation for 1900, including \$1,200 for salaries to internes,	60,000
Appropriation for new dining room and assembly hall,	18,000
Extras for furnishing, including grading and painting, extension of water pipes, etc.,	5,000

The reports of the examining and visiting physicians, and of the superintendent and treasurer follow.

Respectfully submitted,

JOHN C. HAMMOND.

A. W. ESLEECK.

W. E. PARKHURST.

FRED. B. PERCY.

ALBERT C. GETCHELL.

REPORTS OF VISITING PHYSICIANS.

Oct. 2, 1899.

To the Trustees of the Massachusetts Hospital for Consumptives and Tubercular Patients.

GENTLEMEN:—In response to your request to give you the results of the work accomplished in my service at the hospital during the year ending Oct. 1, 1899, I append the following tables, together with a few statements which are the result of personal observation:—

The number of patients admitted to my service previous to Oct. 1, 1899, is	212
Number re-admitted,	2
Total number of admissions,	214
Number discharged during the year up to Oct. 1, 1899, . . .	126
Number still under treatment at the hospital Oct. 1, 1899, . . .	88
	214
Of the 126 patients discharged, the number who left under two weeks and are therefore not considered in the results is . . .	11
The number of patients who remained more than two weeks, and whose cases are considered in the results, is	115
Of these, one proved to be a case of bronchitis only.	
Of the remainder (114), the number in whom the disease is recorded as "arrested" is	35
Number "much improved,"	37
Number "improved" (including one case of tubercular disease of the bladder without apparent pulmonary disease), . . .	17
Number "not improved,"	24
Number "well" (bronchitis),	1
Number who died in the hospital,	1

Synopsis of Arrested Cases.

Of these, the number having bacilli in their sputa previous to or after entrance is	20
Number of cases without sputa, on whom the tuberculin test was tried with positive results,	2
Number of cases having undoubted symptoms of pulmonary disease, but not showing bacilli in the sputa (tuberculin test not used),	9
Number of cases having very suspicious symptoms, without definite signs in the chest (tuberculin test not used),	4

In my nomenclature I have felt obliged to differ somewhat from those of my medical colleagues both here and elsewhere, for the following reason.

By the use of the term “arrest of disease” solely, I have adhered to the custom which I have followed in another institution for several years as being on the whole to me the simplest method of describing those cases in which all active symptoms like cough, expectoration and fever, have disappeared, and where the general symptoms would seem to indicate a complete restoration to health, even where there may be abnormal sounds in the chest remaining. The treacherous nature of the disease, however, has made me unwilling to use the term “cured” before many months have elapsed after cessation of active symptoms, even in cases where an apparent lack of definite signs would seem to make such a classification justifiable at the time of discharge.

The term “much improved” is used in those cases in which marked amelioration of all or most of the prominent symptoms is noted, *e. g.*, cough, expectoration, temperature and weight,—the degree of improvement varying, of course, in individual cases, from a state of decided improvement to one almost reaching an arrest of disease, but where patients have been obliged for various reasons to leave the hospital contrary to advice.

The term “improved” is used in those cases where only a slight degree or possibly rather marked improvement of the symptoms is noted.

Condition upon Entrance of Cases discharged as “Arrested.”

Incipient cases, with slight signs in one or both lungs,	. . .	27
Cases with signs somewhat advanced in one or both lungs,	. . .	8
		<hr/> 35
Average stay in the hospital of the “arrested” cases,	. . .	4½ months.
Maximum stay in the hospital of the “arrested” cases,	. . .	10 months.
Minimum stay in the hospital of the “arrested” cases,	. . .	6 weeks.
Average gain in weight of the 35 “arrested” cases,	. . .	15½ pounds.
The largest gain in weight by any one of these “arrested” cases was	. . . . .	45 pounds.
Length of stay at the hospital of this patient was	. . .	6 months.

Incidentally, it may be mentioned that this case gave a history of cough for over six months previous to entrance,

great loss of flesh and strength, with signs of disease in the tops of both lungs, and that all outward symptoms disappeared at least two months before discharge, and she has remained in the same condition ever since.

Average stay in the hospital of the total number discharged before Oct. 1, 1899, and whose cases are considered in the report (115),	4 months.
Average stay in the hospital of those "much improved,"	4 months.

It will be seen from these tables that all of the patients discharged except two had pulmonary tubercular disease, the exceptions being one of bronchitis and one of tubercular disease of the bladder only.

	Per Cent.
The percentage of "arrested cases" of pulmonary disease is	30.97
The percentage of cases "much improved" } together,	46.10
The percentage of those "improved" }	
The percentage of cases "not improved,"	21.23
The percentage of cases discharged "well" (bronchitis only), . . . . .	.85
The percentage of cases who died in the hospital (1),* . . . . .	.85

These conclusions have been reached after careful examinations of the patients, both as to the general history previously and the physical condition at time of entrance.

As to the great need of an institution like the Rutland Hospital and of many similar ones, there can be no question; the large number of applications prove it. As to its success in accomplishing what cannot be attained in this part of the country usually except under the discipline of a sanitarium, I feel sure no one who will compare the results with the ordinary methods of treating such cases can doubt.

The hospital has done much this year, although greatly hampered by lack of sufficient appropriation. A more generous appropriation for the coming year will enable us to do even better work.

It must be remembered that plenty of good, nourishing

* It should be mentioned that this case was one of somewhat advanced phthisis, with hemorrhagic tendency. After a stay of several months he had so greatly improved that he had planned to keep a hen farm in the country. After an absence of a day or two from the hospital, when returning he received a sharp blow in the chest by the sudden stopping of a train, which was followed immediately by a very severe hemorrhage, from which he never rallied.

food is an essential in any attempt to treat tubercular disease, and for this reason a greater outlay is necessary than in providing for a hospital for the hopelessly ill only.

One of the most important features of the work at Rutland has been mentioned more than once, but it cannot be emphasized too strongly. I refer to its educational effect, upon not only the patients but upon the community in general. Having positive proof of the beneficial effects upon themselves of the open-air treatment, of regular living and of cleanliness, the patients preach this gospel to their friends far and wide, with good results which I believe to be incalculable. It has been most gratifying to note this in the numerous letters received and the remarks made by those who have returned to their homes. That this will tend in future generations to diminish the liability to tubercular disease in our community, there can be no doubt.

A few words should be said upon four important points which are brought specially to the notice of the attending physicians.

First.—As to the character of the cases admitted to the hospital. At the outset many with signs of advanced pulmonary disease and for whom there was little hope of anything other than temporary improvement were admitted. Soon, however, the numerous applications of patients showing less marked symptoms made it possible to give preference to the latter, a course which followed the wishes of the trustees as expressed in the circulars issued early in the year, viz., that the hospital should be used as a sanitarium for patients for whom there was a reasonable prospect of cure, and not as a home for the hopelessly sick. In following out this plan the physicians have felt that they were doing the greatest good to the greatest number. The wisdom of this decision will, I think, be recognized by the profession and the laity when the facts are fully understood. The large number of applications from patients in a state of advanced disease, however, has clearly demonstrated the lamentable lack of provision in our State and elsewhere for this most pitiable class of cases.

Second.—Under present conditions there is a large num-

ber of worthy people of very limited means who are deprived of the best opportunity of completing the arrest of disease because of their lack of funds. During my service several most promising cases were obliged to leave much too soon on this account. This fact is a serious obstacle to success, but it could be overcome. It certainly would be for the benefit of the community, as well as of the individual, if a larger appropriation could be made to meet this difficulty. A certain sum could be devoted solely to the purpose of enabling worthy people, with symptoms of incipient disease, to remain sufficiently long to regain their health, or at least until a satisfactory attempt had been made to accomplish this. There is every reason to believe that in several of those discharged as "much improved" during the past year the disease could have been arrested had the patients been able to remain longer at the hospital. A serious consideration of this subject is earnestly desired. Only those brought directly in contact with such cases can realize its importance.

Third. — It is of great importance that the subsequent histories of those who have been in the hospital should be followed, in order that accurate estimates may be made of the value of the institution to the community. This cannot be done satisfactorily without the appointment of officers permanently connected with the institution, as in certain other State hospitals, whose business it shall be to trace all former patients who, through change of occupation or address, may easily be lost sight of, and without whose subsequent histories the hospital records are deprived of much of their value.

Fourth. — It is an indispensable part of the treatment of this class of patients that as much as possible should be provided for their amusement; and it is therefore with great satisfaction that the attending physicians have learned of the proposed erection, when possible, of a suitable entertainment hall. A properly equipped laboratory for bacteriological and chemical work, situated near the medical assistants' apartments, is also an urgent necessity in the near future, the present accommodations and equipment being entirely inadequate for this important branch of the hospital.

Massachusetts may well be proud that she was the first to establish a State sanitarium for the treatment of tubercular disease. That similar ones may be founded in the State and throughout the country should be the sincere and earnest effort of every one desirous of stamping out this scourge of the human race.

In conclusion, I wish to gratefully acknowledge the indefatigable and able work of my assistant at the hospital, Dr. Henry B. Dunham, without whose efficient aid it would have been impossible to accomplish what has been done this year.

My sincere thanks are due to the superintendent, Dr. Marcle, and to Dr. Clapp's assistant, Dr. Butler, both of whom, during the recent unfortunate illness of my assistant, have kindly aided me in my work. To the efficient and cheerful work of the nurses, and of the matron, Miss Thrasher, much of whatever success has been accomplished is due.

I remain respectfully yours,

VINCENT Y. BOWDITCH.

To the Trustees of the Massachusetts Hospital for Consumptives and Tubercular Patients.

During the year just ended there have been admitted to the hospital in my service 166 patients, of whom 89 have been discharged (40 men and 49 women) and 77 remain under treatment. There have been no deaths during the year.

The occupations of those discharged, previous to their admission, were as follows: housekeepers (or homemakers), 29; factory workers, 11; shoemakers, 7; dress-makers, 2; carpenters, 2; masons, 2; grinders, 2; clerks, 3; electricians, 2; school children, 3; and one each of the following: teacher, book-keeper, tailor, farmer, stenographer, clergyman, dentist, medical student, letter carrier, janitress, baker, butcher, stone cutter, pattern maker,

soldier, butler, salesman, saleswoman, milliner, laborer and domestic.

Dividing the State of Massachusetts into three parts, 65 came from the eastern third, 16 from the central and 8 from the western third.

As to nativity, 62 were born in the United States, 13 in the British Provinces and 14 in foreign lands.

The average age was thirty-one years; the oldest patient was seventy-four and the youngest nine.

2 patients were under 10 years of age.

9 patients were between 10 and 20 years.

38 patients were between 20 and 30 years.

21 patients were between 30 and 40 years.

19 patients were between 40 and 80 years.

Thirty-two had had hæmorrhages before admission, and 9 had them during their residence in the hospital. Only 1, however, had this symptom while in the hospital, who had not had it previous to admission.

The number of discharged patients who gained in weight was 80.

Their average gain was 11 pounds.

The number of discharged patients who lost in weight was 7.

Their average loss was 2 pounds 10 ounces.

The number of discharged patients whose weight was stationary was 2.

The greatest gain of any one individual for the entire stay was 44½ pounds.

The next greatest gain of any one individual for the entire stay was 32½ "

The next greatest gain of any one individual for the entire stay was 30½ "

The greatest gain of any one individual for one month was 17½ "

The next greatest gain of any one individual for one month was 15½ "

The next greatest gain of any one individual for one month was 13 "

The greatest gain of any one individual for one week was 12½ "

The next greatest gain of any one individual for one week was 7½ "

The next greatest gain of any one individual for one week was 7 "

Of the 89 discharged patients, 11 had been in the hospital less than one month, which was too short a time to warrant deductions as to the efficacy of the treatment, although some

of them showed marked improvement. Leaving, therefore, out of consideration these 11, we have 78 patients who remained in the hospital for a period longer than one month, one of these, indeed, staying throughout the entire year under discussion, to a day.

These 78 patients on admission included representatives of different grades or stages of the disease, 39 of them being classified as incipient cases, 30 as moderately advanced and 9 as far advanced. By *incipient* cases are meant those which present evidence of a small tubercular deposit in the lung, but without very decided constitutional disturbances. By *moderately advanced* cases are meant those where the tubercular deposits are larger and are beginning to soften, and the constitutional disturbances are prominent; or where, without an extensive infiltration, the pronounced rational symptoms indicate a greater susceptibility of the system to the poison. Far advanced cases require no definition.

This hospital is wisely intended to be a sanatorium for incipient cases only; and if in the future it can be restricted to this class, I am sure that its usefulness will be greatly increased. In the earlier parts of the year, when there was plenty of room, more advanced cases were taken, principally that this room might not be wasted; but now that the hospital is full, and admissions are made only to fill vacancies which occur from time to time, the line is being drawn more closely on incipient cases. The golden opportunity to work, where work is likely to be most rich in fruition, presents itself just at this stage of the disease. If these cases are crowded out by worse, instead of getting well, as many of them might, they often become hopeless. My statistics show in a striking manner (what those in similar institutions always show) how the difficulty in arresting the disease increases in proportion to its advancement.

Of my 39 incipient cases remaining more than one month, 64 per cent. were apparently cured or arrested; of my moderately advanced cases, only 13 per cent.; and of my far advanced cases, none.

The statistics of results of treatment are tabulated as follows, the first table showing the number of patients under each heading, and the second table showing percentages:—

78 Patients who remained from One Month to One Year.

CONDITION ON ADMISSION.	Apparently cured or arrested.	Improved.	Stationary.	Worse.	Died.
Incipient cases (39),	25	12	1	1	-
Moderately advanced cases (30), .	4	12	3	11	-
Far advanced cases (9),	-	1	1	7	-
Total (78),	29	25	5	19	-

Percentages of the Above.

Incipient cases (39),	64	30	3	3	-
Moderately advanced cases (30), .	13	40	10	37	-
Far advanced cases (9),	-	11	11	78	-
Total (78),	37	32	6	24	-

Some sanatoria in this country and abroad report their most successful cases as *cured*, more of these institutions report them a little more modestly as *apparently cured*, and a few as *arrested*.

Those who employ the latter word do not use the term *cured*, believing that it is not really justifiable until the patient has maintained his restored condition for a number of years. This argument surely has weight, because relapses are possible and not infrequent; and certainly no physician, when discharging a patient, can state absolutely and infallibly (the test of time not having confirmed it) that the patient is really cured, although his experience may enable him to decide with more or less confidence that under favorable surroundings the cure is likely to prove permanent. The objection, however, to the word *arrested* as a substitute for *cured* is that many authorities use *arrested* as a designation of their *second* grade of cases, classified by results, which are confessedly far less satisfactory than the first; cough, expectoration and bacilli, as well as physical signs, being very likely still present, and much confusion is likely to result from comparisons. It seems to me that the qualifying adverb in the term *apparently cured*, which is now in favor, expresses the idea desired to be conveyed with sufficient regard to the claims of modesty. The word “ap-

parently " can be dropped after the lapse of enough time, if the patient remains well. If not, the backsliding will prove either that the cure was apparent and not real, or that a new and fresh infection has taken place.

As to definition, the expression *apparently cured* indicates cases in which the phthisical cough, fever, etc., are practically gone, and have generally been absent for at least three months, no tubercle bacilli being found in the sputum, or there being no expectoration, and the physical signs either having entirely disappeared, or, if any remain, indicating a healed lesion. Of course this does not mean that the patient necessarily remains free from rheumatism, dyspepsia, catarrh, etc.

Although some of our apparently cured cases will undoubtedly relapse, as they do in other places, yet it is believed that the majority will stand; especially if they will carry out in their homes the principles which have been drilled into them while at the hospital, remembering that eternal vigilance is the price of safety.

Some will be at a great disadvantage on account of the unhygienic character of their home surroundings, and others on account of difficulty in obtaining suitable occupations which will keep them out of doors. A great field of philanthropy is open and ready to be cultivated by any benevolent and kind-hearted people who are willing to lend a hand in helping such to obtain the right kind of employment. To preserve health is meritorious, as well as to restore it when lost.

Most of the hospital sputum has been examined for bacilli in the laboratories of the Boston University School of Medicine or of the Harvard Medical School; some in the hospital itself.

Tubercle bacilli were found in the expectoration of 63 of my patients on entrance. When discharged, 37 of these still had them and 26 had lost them; in 7 there was no sputum to examine. In the remainder no examination was made. The majority of the latter were in an advanced stage of the disease.

Many applicants are refused because they come only when their disease is so far advanced that there is little or no hope.

If they would only apply near the beginning, when they are still able to work and feel fairly well; if physicians would recognize the disease earlier and send patients in the very first stage, not waiting until the lungs commence to break down, and the hectic, emaciation and other symptoms are so pronounced that even the laity can make a correct diagnosis, our hospital could accomplish still more. Nor is it wise always to wait until the bacilli appear in the sputum, for occasionally this does not happen for many weeks after the onset of the disease.

When spitting of blood comes as an early symptom, it is a very fortunate event, as it at once arrests the attention of the patient, and induces him to seek advice which otherwise might be for a long time postponed. In my experience, with very few exceptions, if organic heart disease can be excluded, hæmoptysis indicates pulmonary tuberculosis.

As to treatment, in addition to constant and copious potations of the beautiful Rutland fresh air, day and night, and the other modern hygienic measures now recognized as necessities for consumptives, medicines have been given in almost all cases, but use has been made only of those which are well known to our physicians generally. No serums have been employed, nor any of the different preparations or modifications of tuberculin, nor any of the numerous so-called specifics. No hypophosphites and comparatively little cod liver oil have been taken.

I desire to express here my appreciation of the faithful and valuable labors of my assistant, Dr. D. P. Butler, Jr., who has been connected with the hospital since its opening. The nurses also have been uniformly efficient and courteous.

Respectfully submitted,

HERBERT C. CLAPP, M.D.

REPORT OF SUPERINTENDENT AND TREASURER.

*To the Trustees of the Massachusetts Hospital for Consumptives and
Tubercular Patients.*

The first report of the superintendent and treasurer of this institution, for the hospital year ending Sept. 30, 1899, is hereby respectfully submitted.

The opening of the hospital was announced in the second annual report of your Board. During the first month, October, 1898, 31 patients were admitted. Ninety-seven admissions are recorded for the three months ending December 31. The full capacity of the hospital, 175, was reached Feb. 7, 1899. The total number of admissions for the year is 387. Two hundred and sixteen have been discharged. There has been one death. To-day (Oct. 1, 1899) there are in the institution 171 patients. The daily average from January 1 to September 30 is 162.84. Seven hundred and two applicants have appeared for examination. The percentage of all applicants who have been admitted is 55. Forty-five per cent. of all applicants have been rejected because of too advanced condition of the disease. Seven patients have been received at the request of the overseers of the poor of two towns and one city. Of the daily average of 162.84, 47 have been free cases.

A word regarding the general hospital care of the patients is due from me. Our full working force of nurses comprises, besides the Superintendent of Nurses, four day nurses, two night nurses, and an extra nurse for general assistance and emergencies. They are all graduates of the best training schools.

With few exceptions, all the patients have been able to care for themselves, *i. e.*, they have not required the special attention of the nurse. Every one, upon his entrance, is

provided with a small blank book, and is required to record therein his daily habits while in the institution. The number of hours spent out of doors, the amount of exercise, the character of cough, the amount of expectoration, and any symptom especially worthy of note, he enters in his journal. If he be acutely ill, the nurse keeps a minute record of the case. Under the supervision of the nurse, he takes his temperature and pulse, and these the nurse records. Regularly every week he is weighed. His exercise is regulated by the physician, and is taken in walking, games or light out-of-door employment. One of the important duties of the nurse lies in devoting careful attention to the individual cuspidors and to the large cuspidors and their cabinets in the hallways.

Although the treatment is largely "rest," the greater number of our household are able to perform some light daily duty. It has not been possible this first year to arrange systematic employment; but with the opening of another growing season it is to be expected that some regular out-of-door work for not more than two or three hours a day will be instituted for the male patients. Within the year several of the patients, whose physical condition would allow it, have been employed in responsible positions, such as that of mail carrier, stenographer, librarian, pharmacist, assistant office clerk, clinical clerk. In every case the work has been for a short time daily, and always with satisfactory results.

Protestant services have been held every Sunday afternoon during the year. Mass has been read every week or two,—as often as could be arranged with the pastor of the parish. The former services have been held in the main corridor, the latter in one of the wards or ward dining rooms. A Sunday-school has been organized and successfully maintained by the patients.

Twice every week there has been a large evening gathering in the main hall for a half-hour of music and reading. Two very successful entertainments have been given on the lawn and one in a large ward by the patients; and friends from Rutland, Spencer, Worcester, Boston and other places have rendered fourteen programmes, musical and literary, at the hospital. The only expense to the institution has been in some cases for the railway fares of the entertainers.

The women patients have formed a society of "The King's Daughters." One of the duties of this society is to mend the clothing of the men patients.

There is no place provided for these numerous assemblies. The only room possibly available at present for a large gathering is the main corridor or hall, and this is not designed by construction for such purposes. Moreover, the regular household work is materially disordered by this use of the main thoroughfare of the working building.

A small collection of paper-bound books, gifts of patients and their friends, has been a considerable source of profitable entertainment to all the household. Kind friends send us magazines and papers, which are distributed to the wards. Eight regular weekly newspapers and one daily have been donated by the editors. Through the very successful efforts of a friend of the institution, Mrs. Rufus P. Williams of Cambridge, over five hundred bound volumes of the latest and best books have been given to the hospital. These will soon be properly catalogued and arranged for circulation.

We have now a well-equipped laundry in the new addition, for the building and furnishing of which a special appropriation was made this year.

The appropriation of \$150 made in 1898 for the fencing of the filter beds has been exhausted in putting up a substantial wire fence to enclose the specified area.

The Boston office of the hospital, at 181 Tremont Street, has been open throughout the year on Wednesday and Saturday, 10 to 12 in the forenoon, as was announced in the circular sent a year ago to all the physicians in the State. The same arrangement will obtain for the ensuing year. Dr. Bowditch examines on Wednesday, Dr. Clapp on Saturday. The examining and visiting days at the hospital are Monday for Dr. Clapp and Friday for Dr. Bowditch.

The weekly cost of maintenance has been \$8.40.

In accordance with the decision of your Board, the charge for board and treatment was fixed at \$4 beginning June 1.

ACKNOWLEDGMENTS.

I take this opportunity to thank the many throughout the State whose interest, repeatedly expressed, in this new institution, has been a help to those actively engaged in the work.

We are grateful to all who have assisted in making the sanitarium life a cheerful one; to the musical and literary friends, who came during the variable winter weather, and at no slight inconvenience to themselves, to give us gratuitously entertainments of the very first rank; to the editors in various parts of the State, who have sent us regularly their newspapers; to the many friends who have responded so liberally to the appeal for books and magazines for the library. We are especially indebted to Mrs. Rufus P. Williams, whose indefatigable labors in establishing a library for the institution have met with such splendid success. Our thanks are also due to those who contributed towards the purchase of the missionary organ. This instrument is found to be invaluable in the devotional services held under the pine trees and in various parts of the hospital. For the gift of two large wall clocks, of one hundred singing books, of furs and wraps for the patients and of various other useful articles, we are extremely grateful.

Grateful acknowledgment is here expressed to the Boston University School of Medicine and to the Harvard Medical School for the valuable microscopical work they have done for this institution.

I heartily commend my associates, officers, nurses and all employees for their great interest in the work and for their devotion to the welfare of the institution.

This first year, in common with all beginnings, has had its rough places, its discouragements. The support and wise counsel of your Board have been a help to me at all times, and I thank you.

There follows a statement of the finances of the institution from Jan. 1, 1899, to Sept. 30, 1899 (the supplementary report of your Board, published Dec. 31, 1898, contains a statement of the finances to that date).

Cash on hand Jan. 1, 1899,	\$130 19
Balance appropriation 1898, for maintenance,	626 83
Received from Commonwealth portion of appropriation for maintenance, 1899,	37,369 33
Received from patients,	15,728 47
Received from cities and towns for support of patients,	29 96
Received from Commissioners of State Aid for support of patients,	64 02
Received from charitable associations for support of patients,	470 01
Received from patients on deposit,	630 50
Received for sale of clinical thermometers, etc.,	527 82
<hr/>	
Total,	\$55,577 13

The expenditures from Jan. 1 to Sept. 30, 1899, inclusive, have been as follows :—

Salary and wages,	\$16,821 23
Provisions and supplies :—	
Fresh meat,	\$7,011 96
Ham and bacon,	319 14
Flour,	405 49
Fruit and vegetables,	1,920 87
Butter and eggs,	3,706 16
Milk,	2,378 08
Fresh fish,	213 26
Groceries,	2,793 92
All other provisions,	257 59
<hr/>	
	19,006 47
Fuel and lights,	\$2,649 12
Medicines and medical supplies,	799 82
Engineers' supplies,	143 69
Water,	500 00
Ordinary repairs,	79 25
Office supplies,	160 20
Travelling expenses (trustees, visiting physicians, superintendent and assistant physicians),	873 23
Grain and feed for stock,	255 13
Supplies for cuspidors,	420 78
Teaming and livery,	1,587 11
Freight and express,	819 84
New England Telephone and Telegraph Company,	69 22
General household supplies,	1,126 63
Paints and oils,	91 78
All other current expenses,	1,531 86
<hr/>	
	11,107 66
<hr/>	
Total,	\$46,935 36

Extraordinary expense:—

Supplies for farm,	\$233 15	
Hose for hydrants,	187 87	
Interior hydrants,	180 98	
Horses,	375 00	
Furniture and other general equipment, .	1,799 45	
Kitchen supplies,	323 68	
Bath tub,	62 12	
Dry goods,	214 05	
Total,	<u>\$3,376 30</u>	
Return to State Treasurer,	86 73	
Rebate to patients,	252 18	
Refund on deposit,	630 50	
Bills contracted in 1898, paid in 1899:—		
Coal,	\$1,461 78	
Water,	500 00	
	<u>1,961 78</u>	
Total extraordinary expense,	<u>\$6,307 49</u>	
Cash on hand Sept. 30, 1899,	2,334 28	
Total,	<u>\$55,577 13</u>	

RESOURCES.

Cash on hand Sept. 30, 1899,	\$2,334 28
Due from patients,	1,366 87
Due from cities and towns for support of patients,	280 59
Due from Commissioners of State Aid for support of patients,	143 70
Due from charitable associations for support of patients,	69 70
Balance of maintenance appropriation, 1899,	2,717 40
Provisions on hand,	2,766 11
	<u>\$9,678 65</u>

LIABILITIES.

Due for ordinary supplies,	\$5,703 01
Due for salary and wages,	2,046 20
	<u>\$7,749 21</u>
Due for extraordinary expenses,	931 30
	<u>\$8,680 51</u>

SUMMARY OF CURRENT EXPENSES FROM JAN. 1 TO SEPT. 30, 1899.

Total expenditure for current expenses,	\$46,935 36
Liabilities for current expenses,	7,749 21
	<u>\$54,684 57</u>
Supplies on hand Sept. 30, 1899,	\$2,766 11
Supplies on hand Jan. 1, 1899,	1,782 58
Making a deduction of	<u>983 53</u>
We have as total current expenses,	<u>\$53,701 04</u>

Dividing this amount by the total number of days for patients, 44,460, January 1 to September 30, we have \$1.20 as the average cost per day or \$3.40 per week.

SPECIAL APPROPRIATION. — FURTHER EQUIPMENT.

Appropriation, 1899, \$6,000 00

1899.

March	1.	Duparquet Huot & Moneus, cooking utensils, . . .	\$24 30	
		Shepard, Norwell & Co., dry goods,	88 15	
		J. H. Clark & Co., blankets,	283 52	
		Allen Thompson Whitney Company, furniture, . .	132 45	
		The Putnam Company, beds,	296 25	
		W. B. Sawyer, carriages, harnesses, etc., . . .	175 00	
			<hr/>	\$999 67
July	19.	Mather & Whiting, on contract laundry building,	1,500 00	
Sept.	23.	Mather & Whiting, balance of con- tract,	2,000 00	
		Troy Laundry Machinery Company, laundry machinery, . . .	1,156 54	
			<hr/>	5,656 21
		Unexpended balance,		\$343 79

SPECIAL APPROPRIATION. — GRADING.

Balance of appropriation as of second annual report, . . . \$286 31

1898.

Nov.	1.	M. D. Potter,	\$36 58	
Dec.	1.	P. S. O'Connor,	149 10	
Dec.	1.	M. D. Potter,	69 98	
			<hr/>	255 66
		Unexpended balance,		\$30 65

SPECIAL APPROPRIATION. — FILTER BEDS.

Appropriation of 1898, \$150 00

1898.

August	1.	Stone & Foster, posts and rails, . .	\$74 08	
		C. A. Pierce, labor,	46 12	
		Duncan Goodell & Co., wire, etc., .	24 07	
		Fredk. Severance, labor,	4 98	
		Garland Lincoln Company, tools, .	1 75	
			<hr/>	\$150 00

SPECIAL APPROPRIATION.—ELECTRIC LIGHT PLANT.

Balance of appropriation as of second annual report, . . \$2,000 00

1898.

Dec.	1.	J. & W. Jolly,	\$3 70
		Blake Steam Pump Company, . . .	75 00
		Taunton Locomotive Company, . .	45 00

1899.

Jan.	1.	R. T. Oakes Company,	1,814 13
July	1.	R. T. Oakes Company,	33 42
			<hr/>
			1,971½ 25
		Unexpended balance,	\$28 75

SPECIAL APPROPRIATION.—TO MEET DEFICIENCY.

Appropriation, 1899, \$6,435.98

Unpaid bills for furnishing, as of second annual report, . \$1,116 24

Unpaid bills on construction, as of second annual report:—

Mather & Whiting,	\$2,411 05
L. A. Taylor,	1,173 63
A. B. Franklin,	183 38
W. Chester Chase,	1,600 00
	<hr/>
	5,368 06

1899.

May	1.	Louis M. Hanff, painting,	\$141 56
		Mather & Whiting, lumber,	132 21
		The Clark Sawyer Company, house-	
		hold furnishings,	131 21
		F. S. Hunt, lumber,	78 69
		Guy Furniture Company, furniture, .	24 87
			<hr/>
			508 54
			<hr/>
			\$6,992 84
		Balance of original appropriation for furniture, . . .	556 86
			<hr/>
			\$6,435.98

WALTER J. MARCLEY,

Superintendent and Treasurer.

LIST OF WAGES.

Examining and visiting physicians (per annum), each, .	.	\$2,500	00
Superintendent and treasurer	" "	.	2,000 00
Matron and superintendent of nurses	" "	.	1,000 00
Chief engineer (without living)	" "	.	1,200 00
Book-keeper, . . . . .	.	.	500 00
Nurses, day	(per month), . . .	.	30 00
Nurses, night	" "	.	35 00
Assistant engineer (without living)	" "	.	60 00
Assistant engineer (without living)	" " for six months,	.	50 00
Cook	" "	.	75 00
Assistant cook	" "	.	35 00
Baker	" "	.	65 00
Baker's assistant	" "	.	15 00
Fireman	" "	.	25 00
Fireman	" " for six months,	.	15 00
Carpenter (without living)	(per day), . . .	.	2 00
Farmer	(per month), . . .	.	35 00
Head laundress	" "	.	25 00
Laundry help, female	" "	.	\$15 00 to 20 00
Laundry help, male	" "	.	20 00
Ward help, female	" "	.	\$13 00 and 15 00
Ward help, male	" "	.	15 00
Watchman (without living)	" "	.	35 00
Porter and messenger	" "	.	20 00
Kitchen men	" "	.	\$15 00 to 25 00
Coachman	" "	.	20 00
Teamster	" "	.	20 00
Stenographer,	} patients,	.	.
Ward work, male,		.	\$10 00 to 15 00
Outside work,		.	.
General work	" "	.	15 00

FOURTH ANNUAL REPORT

OF

THE TRUSTEES

OF THE

MASSACHUSETTS

2

STATE SANATORIUM

AT RUTLAND.

SEPTEMBER 30, 1900.

BOSTON:

WRIGHT & POTTER PRINTING CO., STATE PRINTERS,
18 POST OFFICE SQUARE.

1901.

C.

OFFICERS

OF THE

MASSACHUSETTS STATE SANATORIUM.

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JOHN C. HAMMOND,	NORTHAMPTON.

Examining and Visiting Physicians.

VINCENT Y. BOWDITCH, M.D.,	BOSTON.
HERBERT C. CLAPP, M.D.,	BOSTON.

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MARY E. THRASHER,	.	<i>Matron and Superintendent of Nurses.</i>
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FREDERICK H. DRURY,	.	<i>Supervisor.</i>

Commonwealth of Massachusetts.

REPORT OF THE TRUSTEES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

At the beginning of this the fourth annual report of the Massachusetts State Sanatorium we note with satisfaction the action of the Legislature (St. 1900, chapter 192), changing from the original name, the Massachusetts Hospital for Consumptives and Tubercular Patients, to Massachusetts State Sanatorium. The new name sanatorium is according to the best authorities now applied to all institutions devoted to the cure of consumptives.

During the past year the sanatorium has had its full quota of patients. The work of the year and the results are set forth in the report of the superintendent and treasurer and the reports of the medical staff, which are herewith submitted.

There are many matters of administration and of the general care and management of an institution of this kind which can be determined only from experience. The time during which the work has been carried on is quite brief. The first patient was received Oct. 3, 1898. Experience covering a longer period will be of continually increasing value. It is, however, safe to say that it is no longer an experiment. The hearty support given to the work by the medical profession, by the authorities of the State and by the general public is fully appreciated by the Board of Trustees.

The appropriation of \$18,000 made by the Legislature of 1900 for a new dining-room and recreation hall has not been used except a small amount incurred for architects' charges.

By the Resolves of 1900, chapter 98, the State Board of Charity was directed to consider and report upon the expediency of constructing and equipping a new building for the use of this sanatorium. As trustees of this institution, we gladly welcomed this inquiry. We have laid before that Board all facts within our experience and knowledge, and shall await with interest the aid which the executive and legislative departments of the Commonwealth will derive from the report of that Board, the value of which is very much enhanced by the great ability and experience of its members. In view of this fact, this Board deemed it probable that the recommendations to be made by the State Board of Charity might be better carried out if the work of constructing a new dining-hall and recreation hall or chapel were delayed until after that report should be submitted; accordingly, no work towards their erection has been undertaken.

It is the opinion of this Board that the capacity of the institution may be safely enlarged to 250 patients as an average. To secure that average there should be room for a possible 260 patients, because there is necessarily a variation in numbers; the coming and going of patients cannot be made absolutely uniform. The recommendation is respectfully submitted that this, the first government sanatorium for consumptives in the world, should now be fully equipped for work; and, if a capacity of 250 patients is desirable, certain preparations for it are requisite.

We state fully and in detail the requirements for a fully completed and equipped sanatorium for 250 patients. Were the limit to remain at 200, all the needs remain except additional wards for patients; the other requirements would remain, except that the dining-room and recreation hall could be somewhat smaller and some incidentals might be omitted. The needs are as follows:—

1. New dining-room and kitchen and recreation hall or chapel.
2. An administration building.
3. A nurses' home, which can well be the east ward slightly enlarged and a second story added.
4. An isolation cottage, to be prepared for any possible contagious disease.

5. The extension of two short wards to accommodate the additional patients.

6. Addition to heating and lighting plant to meet the increased demands of a home for 250 patients.

7. Furniture and equipment for new wards and administration building.

8. Dry sterilizer for treating mattresses and clothing of patients.

9. Window screens for the whole sanatorium.

10. Enlargement of present bath rooms; equipment with shower baths and enlarged lockers for patients' clothing.

11. A workshop for carpenter work and machinists' repairs, to be situated in the rear of and annexed to the engine room, with its equipment.

12. Painting of interior walls and exterior woodwork, both in oils, and incidental repairs.

13. Shed to store vehicles and farm implements. Another team of heavy work horses, with wagon and harnesses. The purchase of six cows, which can be fed on the premises from hay not suitable for horses.

14. The fresh eggs essential can be produced on the premises, and hens and ducks fed from table refuse; a suitable small building is needed.

15. A coal shed at Muschopauge station.

16. An ice house on the lake.

17. Treatment of wood land and lawns by a landscape architect, and the expense of same.

Plans and estimates have not been made for the important buildings. We deemed it more suitable to await the report and advice of the State Board of Charity. We shall gladly be advised by their recommendations. The resolve authorizes them to submit plans and estimates.

The best judgment of the trustees is that to carry out the complete equipment above outlined will require an expenditure of not less than \$110,000 in addition to the \$18,000 already appropriated, subject to the report of the State Board of Charity and any modification made necessary thereby. This Board recommends an appropriation of that amount. They will be prepared to submit plans and estimates, if requested so to do.

An impression has obtained in the minds of certain physi-

cians that they could send patients directly to the sanatorium, and rely on their being given a free bed at the charge of the State. This is a mistake, and has caused confusion and unpleasant misunderstandings. The practice at this sanatorium has been to expect that all patients will pay four weeks' board in advance on entering the institution. The patients must necessarily be received on trial. If they prove suitable and hopeful cases, the question of receiving free treatment at the cost of the State will be considered at the next monthly meeting of the trustees, who must have evidence as to the financial situation of the patient and his family.

We are advised by the medical staff that a reasonable amount of regular out-door work for two or three hours a day in gardening, or the care of the grounds, would be of the greatest advantage to the men who are patients. The fact that patients are constantly changing, that great care must be exercised, and that some of the harder work would be unsuitable, makes it improbable that any financial gain or any economy in expenses will result.

We have before stated that the expense of the food furnished and the further fact that medical skill and expert care is given to every patient makes it certain that such an institution must always cost more per capita than the State hospitals.

The appropriation of \$60,000 for the expenses of the current year will all be needed. We recommend the same appropriation for the ensuing year.

Olmsted Brothers, landscape architects, have visited the sanatorium and looked over the grounds. We quote from their recent letter to Dr. Percy : —

We were much pleased by the very unusually satisfactory site upon which the sanatorium has been erected. We believe it would be very difficult to find a site anywhere else in the State so elevated above the sea and at the same time so well sheltered from harsh north-western storms. It is open to the east, south-east, south and south-west, and is therefore benefited by all the most desirable summer breezes, especially by the prevailing summer breeze, which is from the south-west. The views are extensive and exhilarating. Lake Muschopauge, although not visible from the building itself, is in sight from the grounds immediately adjoining the building on the east, and forms a remarkably beautiful and interesting feature in the

landscape. There is much open hilly land south-east and south-west from the sanatorium, affording opportunities for a variety of walks, with broad views and full exposure to the sun. At the same time there are well-grown woods, picturesquely diversified by ledges and precipitous slopes, north and north-west of the building, affording shady walks and resting places when the sun is too hot or the wind too strong in the open. The summit of the hill, a short distance north of the building, and the shores of the lake, afford particularly attractive objective points for walks.

They suggest that additional roads for drives or walks are indicated; that stone walls and refuse stone may well be disposed of by crushing and used to improve present roads and construct others; that the roads be shaded by careful tree planting, and some side slopes be smoothed over and planted with vines and wild shrubbery; that study will show a better location for the necessary barns and sheds; that flower and vegetable gardens will afford recreation, as well as benefit patients by the work they may there do; that a modest, economical green-house would afford flowers for interior decoration, and provide flowers and vegetables for early planting out; that proper locations should be selected for a base ball field, cricket and tennis grounds, etc., calculated to benefit such patients as can safely use them and promote the enjoyment of all; that the woods greatly need careful and intelligent thinning, the location of narrow roads or broad walks, serving for recreation as well as protection against forest fires; and that, after a suitable scheme is prepared, this work may be done gradually and may extend over a number of years.

A. W. ESLEECK.
W. E. PARKHURST.
FRED. B. PERCY.
ALBERT C. GETCHELL.
JOHN C. HAMMOND.

REPORT OF SUPERINTENDENT AND TREASURER.

To the Trustees of the Massachusetts State Sanatorium.

Herewith is respectfully submitted the report of the superintendent and treasurer of this institution for the year ending Sept. 30, 1900.

A complete record of the admissions and discharges of patients for the year is as follows :—

Admissions and Discharges.

PATIENTS.	Male.	Female.	Total.
Number of patients in the sanatorium Sept. 30, 1899,	79	86	165
Number admitted within the year,	159	158	317
Number discharged within the year,	156	150	306
Number of deaths,	2	3	5
Patients remaining in the sanatorium Sept. 30, 1900,	82	94	176
Daily average number of patients,	82	88	170

There have appeared for entrance examination 1,233 applicants, of whom 69 per cent. have been rejected because there were no prospects of immediate vacancies or because of too advanced condition of the disease. A very small percentage of the favorable cases have refused to come when notified. Eight cases have been received by request of the overseers of the poor of two cities.

The residence, civil condition and occupations of patients admitted are shown in the following tables :—

Residence.

COUNTIES.	Patients.	COUNTIES.	Patients.
Suffolk,	125	Hampden,	11
Worcester,	61	Plymouth,	8
Middlesex,	59	Berkshire,	6
Norfolk,	18	Barnstable,	2
Essex,	13	Franklin,	2
Bristol,	11	Hampshire,	1

Civil Condition.

	Male.	Female.	Total.
Unmarried,	98	98	196
Married,	57	55	112
Widowed,	2	7	9

Occupations.

	Male.	Female.		Male.	Female.
Baker,	5	—	Clergyman,	3	—
Book-keeper,	8	7	Clerk,	26	7
Bolt cutter,	1	—	Coachman,	2	—
Box maker,	1	1	Conductor, electric		
Brakeman,	1	—	railway,	2	—
Brass polisher,	1	—	Dentist,	1	—
Brewer,	1	—	Domestic,	—	29
Bridge inspector,	1	—	Draftsman,	1	—
Builder,	1	—	Dressmaker,	—	13
Carpenter,	1	—	Elevator man,	4	—
Cigar maker,	2	—	Engineer,	1	—
Civil engineer,	1	—	Farmer,	3	—

Occupations — Concluded.

	Male.	Female.		Male.	Female.
Factory and mill operative,	21	16	Nurse maid,	—	2
Fire department employee,	2	—	Plumber,	1	—
Glass cutter,	1	—	Policeman,	1	—
Glazier,	1	—	Porter,	2	—
Grocer,	3	—	Printer,	5	—
Horseshoer,	1	—	Sales people,	6	4
Hostler,	2	—	Shipwright,	1	—
Housewife,	—	52	Stable keeper,	1	—
Jeweller,	2	—	Stenographer,	1	1
Laborer,	3	—	Student,	9	12
Lawyer,	1	—	Real estate agent,	1	—
Letter carrier,	2	—	Tailor,	4	—
Life saver,	1	—	Teacher,	1	3
Lineman,	1	—	Teamster,	2	—
Machinist,	4	—	Telephone operator,	2	—
Mason,	1	—	Tile layer,	1	—
Mechanical engineer,	1	—	Travelling sales-		
Milliner,	—	3	man,	1	—
Moulder,	1	—	Waiter,	2	3
Nurse, trained,	—	5	Watch maker,	2	—
			Wood carver,	1	—

The 317 patients admitted have an average age of twenty-eight years. They have as dependents upon them for support 150 individuals.

With a few exceptions all the working people in the wards (waitresses and ward boys) have been patients, under treatment or graduated. In all cases the physical condition of these workers has been very satisfactory. Others have been employed in general outside work with good results to them physically.

The gardening begun this year in an experimental way has not been of sufficient proportion to warrant a detailed report, but I am fully convinced of the success of the experiment, and hope to be able to enlarge upon it another year.

The weekly cost of maintenance has been \$9.74 $\frac{1}{2}$ per capita. It has been impossible to make this as low as last year's record, because of the advance in prices of all staple articles.

The charge made for telephone service (\$463.73) is exorbitant, but I have been unable to obtain any concession.

The Boston office of the sanatorium, at 181 Tremont Street, has been open throughout the year on Wednesdays and Saturdays. Examining days at the sanatorium have been Mondays and Fridays. This arrangement will continue for the ensuing year.

A portion of the special appropriation for "furnishings, grading, painting, extension of water pipes and sundry other necessary improvements" has been used for the purposes specified, viz.: the water line has been extended to the farm buildings; some changes and general repairs have been made in the farm house, with addition of a bath room; farm horses, wagons, implements, etc., have been added to the equipment for outside work; portions of the woodwork on the exterior of the buildings have been painted; better equipment in the kitchen and other parts of the institution has been supplied.

The library, through the continued successful efforts of Mrs. Rufus P. Williams, has become a collection of about 2,000 bound volumes. To complete it we are very much in need of book cases and a system of cataloguing.

The following papers and magazines have been donated by the publishers and by friends, and are hereby gratefully acknowledged: Worcester "Daily Spy," Ware River "News," Fitchburg "Sentinel," Springfield "Union," Somerville "Journal," Milford "Gazette," Newton "Graphic," Leominster "Enterprise," "Times and Newsletter" (Westfield), "My Neighbor," "The Outlook," "Harper's Monthly," Clinton "Courant," Athol "Transcript," "Church Militant," "Masters in Art," "The Parisian."

Our thanks are due the Harvard Medical School and the Boston University School of Medicine for the excellent microscopical work they have done for us. We thank also the friends who have sent books and magazines for the library, and those who have contributed to our entertainments and to the purchase of the much-needed chapel organ.

In conclusion, I wish to commend my associates for their

faithful devotion to the interests of the institution, and I desire to express my thanks to your Board for your wise counsel.

The financial statement follows.

Cash on hand Oct. 1, 1899,	\$2,334 28
Balance appropriation 1899, for maintenance,	2,717 40
Received from Commonwealth, special appropriation for deficit of 1899,	12,000 00
Received from Commonwealth, portion of appropriation for maintenance of 1900,	44,904 98
Received from patients,	26,293 89
Received from cities and towns for support of patients,	1,192 87
Received from the State and from charitable associations for support of patients,	1,125 73
Received from sale of clinical thermometers, furs, etc.,	1,792 49
	<hr/>
	\$92,361 64

The expenses for the year ending Sept. 30, 1900, have been as follows :—

Salaries and wages,	\$28,809 42
Provisions and supplies :—	
Fresh meat,	\$16,201 90
Ham and bacon,	635 84
Flour,	410 90
Butter,	3,662 44
Eggs,	3,745 71
Milk,	5,635 64
Groceries,	4,446 13
Fruit and vegetables,	2,006 53
Fresh fish,	522 91
	<hr/>
	37,268 00
Water,	\$500 00
Fuel and light,	7,216 48
Medical supplies,	1,286 26
Supplies for cuspidors,	683 20
Household supplies and expenses,	2,075 30
Engineers' supplies,	210 89
Office supplies,	773 07
Boston offices, rent and attendance,	571 04
Farm supplies,	315 29
Grain and feed for stock,	536 20
Farm repairs,	153 55
Teaming and livery,	1,089 34
Travelling expenses (trustees, visiting physicians and other officers),	1,562 57
Freight,	451 14
	<hr/>
<i>Amounts carried forward,</i>	<i>\$17,424 33</i>
	<hr/>
	\$66,077 42

<i>Amounts brought forward,</i>	\$17,424 33	\$66,077 42
Express,	670 85	
Telephone, \$463.73; telegraph, \$25.06,	488 79	
General repairs,	922 11	
	<u>\$19,506 08</u>	
Of which there remain unpaid bills amounting to	4,103 62	15,402 46
	<u></u>	<u></u>
Total,		\$81,479 88
Extraordinary expense:—		
Fur coats and robes for patients,	\$357 60	
Household furnishing,	981 75	
Other miscellaneous,	291 18	
Total,	<u>\$1,630 53</u>	
Rebate to patients,	188 83	
Liabilities as of third annual report, and paid this year:—		
Water,	\$500 00	
Miscellaneous bills,	8,180 51	
	<u>8,680 51</u>	
Total extraordinary expense,		10,499 87
Cash on hand Sept. 30, 1900,		381 89
		<u>\$92,361 64</u>

RESOURCES.

Cash on hand Sept. 30, 1900,	\$381 89
Due from patients,	1,411 48
Due from cities and towns for support of patients,	205 10
Due from State and charitable associations for support of patients,	424 40
Balance of appropriation of 1900, for maintenance,	15,095 02
Supplies on hand Sept. 30, 1900,	1,974 60
Estimated income from patients to Dec. 31, 1900,	7,500 00

LIABILITIES.

Due for supplies, salaries and wages,	\$4,103 62
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SUMMARY OF CURRENT EXPENSES FOR THE YEAR ENDING SEPT. 30, 1900.

Total expenditures for current expenses,	\$81,479 88	
Liabilities for current expenses,	4,103 62	
	<u></u>	\$85,583 50
Supplies on hand Oct. 1, 1899,	\$2,766 11	
Supplies on hand Sept. 30, 1900,	1,974 60	
Making an addition of	<u></u>	791 51
We have as total current expenses,		\$86,375 01

Dividing this amount by the total number of days for patients, 62,038, we have \$1.392+ as the average cost per day, or \$9.74½ per week.

SPECIAL APPROPRIATION,— FURTHER EQUIPMENT, 1899.

Balance of appropriation, as of third annual report, . . .	\$343 79
Dec. 7, 1899, schedule of bills,	\$173 32
June, 1900, schedule of bills,	170 47
	<hr/>
	343 79

SPECIAL APPROPRIATION,— GRADING, 1898.

Unexpended balance, as of third annual report, . . .	\$30 65
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SPECIAL APPROPRIATION,— ELECTRIC LIGHT PLANT, 1898.

Balance of appropriation, as of third annual report, . . .	\$28 75
July, 1900, schedule of bills,	28 75

SPECIAL APPROPRIATION,— FOR FURNISHING, GRADING, PAINTING,
EXTENSION OF WATER PIPES, AND SUNDRY OTHER NECESSARY
IMPROVEMENTS.

Appropriation, 1900,	\$5,000 00
July, 1900, schedule of bills,	\$2,768 29
August, 1900, schedule of bills,	1,055 86
	<hr/>
	3,824 15
Unexpended balance,	\$1,175 85

WALTER J. MARCLEY,
Superintendent and Treasurer.

RUTLAND, MASS., Oct. 29, 1900.

I have examined the accounts of the treasurer of the Massachusetts State Sanatorium, and have found them correct.

(Signed) C. E. WATSON,
Expert Accountant.

REPORT OF THE EXAMINING AND VISITING PHYSICIANS.

To the Trustees of the Massachusetts State Sanatorium.

In offering you the results of the second year's work in my department of the sanatorium it gives me the greatest satisfaction to report even better results than before. This fact is doubtless due largely to our ability now to select from the larger number of applicants those in whom the symptoms of disease are still comparatively slight and for whom there is great hope of permanent recovery; a method which we believe from experience brings the greatest good to the greatest number. Larger experience and better facilities are also factors in obtaining better results.

TABULATION OF CASES.

In the following tables I have adhered to the method which I have hitherto employed, of classifying together as "arrested" cases those in whom practically every outward symptom has disappeared, and in whom there is an appearance of health, many of these showing, as far as possible for tissue once diseased, an apparently normal condition of the lungs.

Total number of cases admitted during the year ending Oct. 1, 1900 (including 2 readmitted),	159
Number who left in less than one month, and whose cases are not considered,	18
Number of cases treated,	141

	Incipient.	Well- marked Incipient.	Moderately Advanced.	Advanced.	Very Advanced.	Total.
Arrested,	26	13	10 (3)	3	4	56
Very much improved,	3*	5 (2)	12 (3)	5 (1)	5 (2)	30
Much improved,	1*	10 (2)	9 (5)	1 (1)	2 (2)	23
Improved,	2*	5	8 (1)	3 (2)	3 (1)	21
Not improved,	—	1	6† (3)	—	4 (4)	11
Total,	32	34	45	12	18	141

* Left against advice.

† Two died in sanatorium.

NOTE.—The figures in parenthesis denote the number of cases with active disease, that is, those with high temperature, pulse and other signs showing rapid progress.

Of these, 32 had an active or febrile type of disease.

As seen by the above table, of the 32 "incipient" cases, all who did not leave prematurely and against advice were "arrested."

The 2 deaths occurring in my service were due in one case to a sudden very violent hemorrhage during which the patient died; and the other to sudden syncope, caused by a pneumothorax.

The term "incipient" is used in those cases in which the physical signs are confined to very small areas, namely, in one or both apices of the lungs, and in which the constitutional symptoms are but slightly marked.

The term "well-marked incipient" is used in cases where a larger area is involved, and where the constitutional symptoms are more apparent.

The term "moderately advanced" means a condition in which well-marked changes of respiration, percussion note, etc., are noted, with more or less constitutional disturbance.

The term "advanced" means well-marked areas of consolidation, or with more or less cavity formation and constitutional disturbance.

The term "very advanced" means marked increase of all the above-mentioned signs.

The term "active" is used in cases of distinctly febrile character, with rapid pulse, etc., showing a probably rapid process.

Number in whom tubercle bacilli were found in the sputa, or who gave a reaction to tuberculin,	137
Tuberculin was <i>not</i> used and bacilli were <i>not</i> found, but undoubted signs of phthisis were present, in	4
	<hr/> 141
Number who received tuberculin for confirmatory diagnosis, when sputa could not be obtained,	14
Of these, number who had hæmoptysis as a symptom,	10

Percentages.

"Arrested" cases (56),	39.7+
All grades of "improved" cases (74),	52.0+
"Not improved" (11), including 2 who died,	7.0+
Of the total number of purely "incipient" cases, 81.4 were arrested.	

Comparison of Percentages in the First and Second Year.

	1898-99.	1899-1900.
Number of "arrested" cases,	30.97	39.7
Number of all classes of "improved,"	46.10	52.4
Number of "not improved,"	21.23	7.9

Averages.

The average duration of the disease prior to entrance in all cases treated was	10 months.
The average age of the 141 patients was	27 years.

	Pounds.
Average gain in weight of "arrested" cases,	19.70
Average gain in weight of "very much improved" cases,	19.40
Average gain in weight of "much improved" cases,	10.80
Average gain in weight of "improved" cases,	6.57
Average loss in weight of "not improved" cases, . . . . .	.50
Average gain in weight of entire number treated (141),	14.73

All of the "arrested" cases and a majority of the "very much improved" cases were at or above their normal weight when discharged.

The average length of stay of patients during the year prior to October, 1900, was 8 1-2 months for "arrested cases" and 8 months for all others. The average length of stay is exactly twice that of the first year.

	Months.	Days.
Of the "arrested" cases the longest stay was	19	—
Of the "arrested" cases the average stay was	8	21
Of the "arrested" cases the shortest stay was	1	17
Of the "very much improved" cases the longest stay was	18	15
Of the "much improved" cases the longest stay was	15	15

	Pounds.
Greatest gain in weight of "arrested" cases,	* 65.0
Greatest gain in weight of "very much improved" cases,	38.0
Greatest gain in weight of "much improved" cases,	25.0
Greatest gain in weight of "improved" cases,	22.0
Greatest gain in weight of "not improved" cases,	11.5

* This case was a woman with advanced phthisis, who returned to her home and later went to the Massachusetts General Hospital, where she had typical typhoid (Widal reaction positive), without any effect on the pulmonary signs, cough or sputa (bacilli absent). She is now from all accounts doing well in every respect at her home in Arlington Heights.

SUBSEQUENT HISTORY OF CASES DISCHARGED DURING THE
YEAR PRIOR TO OCT. 1, 1900.

In our previous report the great importance of learning the subsequent histories of former patients was touched upon. The following statistics are therefore of special interest. In response to our printed sets of questions, sent to all who were discharged previous to October, 1899, the number and character of the replies has been most gratifying.

Of the 35 cases "arrested" at time of discharge during the year 1898-99, all are alive, and, with the exception of 3 cases, have not relapsed. Two of these relapsed cases have been readmitted. The recurrence of disease in these cases appears to be wholly due to lack of means and consequent inability to live under proper conditions. A large number, however, of the "arrested" cases, although advised to the contrary, returned to the former environments in which the disease originated, and have, contrary to our expectations, almost uniformly remained (to this date) free from abnormal symptoms or disease. A few with care have become even stronger and heavier than when they left the institution.

Of the 77 cases discharged during the first year as "improved," many left against advice and many returned to an unhygienic life and locality, but a majority are still alive, and are holding the disease in check to a greater or less extent. Seven at least of these "improved" cases have since discharge become completely "arrested," and a number are in better condition than when discharged.

Thirty-two of all the cases treated prior to October, 1899, have died.

Of the 115 cases discharged up to Oct. 1, 1899, all of whom have been away from our care from one to two years, a majority are and have been employed in occupations evidently as arduous as those before illness.

The foregoing tables have been prepared after most careful study by my assistant, Dr. Dunham, in consultation with me, and strictest care has been taken moreover, to make no claims which after close observation seem to be not entirely justified.

The results show most conclusively that the experiment of providing State care for consumptives by the establishment of

sanatoria is an undoubted success; but, that it may be much more far-reaching in its results, additional equipment is greatly needed. A larger corps of assistants is necessary, and a properly equipped laboratory, examining room and entertainment hall are essentials.

I should like to emphasize also what was spoken of in the report of last year, viz., the establishment of a small "probation hospital," on or near the grounds of the sanatorium, for the reception of certain cases when the larger institution is full. With such a building certain cases could be received who could test the effect of a stay in Rutland previous to entrance into the sanatorium, and as vacancies occur they could be immediately filled without the present loss of time and income to the institution. At the same time, a more judicious selection of patients could be made, according to their improvement or otherwise during their period of probation.

As has been often said, the chief value of such an institution as the sanatorium at Rutland is its educational influence upon the community at large. Abundant and gratifying evidences of this are constantly being shown to us by the numerous letters received from former patients, telling us of their improved methods of life and of their endeavor to teach their relatives and friends the importance of fresh air, good food and regular living as the best method for prevention of disease. The sanatorium at Rutland is therefore in one sense a great educational establishment, and as such should receive the hearty and generous support of every one who is desirous of combating the ravages of tuberculosis.

It is my belief, however, that, although the results show the work has long since passed its experimental stage, there is yet much to be done to make the sanatorium a perfect institution, and no money should be wanting to put it upon such a basis. While hoping to see its example followed elsewhere in the future, I should regret any action for great enlargement of the present accommodations for patients, still more for the establishment of other similar institutions by the State, until such time as the sanatorium at Rutland can be made a perfect and lasting example of its kind. Moderation in these matters, now that the idea has become popular, is greatly to be desired.

In saying this I refer only to sanatoria, properly so called. Of the present need for hospitals for the hopelessly sick there

can be no shadow of doubt in the mind of any one who is constantly brought in contact with the great numbers of poor people who are doomed to a lingering death, and whose sufferings are enhanced by lack of proper care at home, where they are a constant burden to their families. For such people there should be proper institutions near every large city and town, supported not by the State, but by the municipalities to which they belong. In our endeavor to make the sanatorium at Rutland a place where people can recover, it is of course impossible to receive these hopeless cases, even if we had room; and an earnest plea is therefore made to every physician to use great care in the selection of patients to be sent for examination. It is a constant source of surprise, I regret to say, that men and women appear for examination, sent often from a distance by their physician as hopeful cases, when the symptoms show them to be in an advanced state of the disease which has not been fully diagnosed. Of the needless fatigue, expense and disappointment brought upon these poor creatures by such action it is unnecessary to dwell.

In closing my report, I wish to express my most grateful appreciation of the invaluable services of my assistant, Dr. Henry B. Dunham, both in his care of the patients and in the preparation of this report. We owe much also to the kind services and helpful suggestions of Dr. James J. Minot of Boston, who during my temporary absence last summer acted as attending physician in my place. For the constant courtesy of the superintendent, Dr. Marcley, the matron, Miss Thrasher, the nurses and others connected with the institution, I wish also to express my sincere thanks.

I remain very respectfully yours,

VINCENT Y. BOWDITCH.

SEPT. 30, 1900.

To the Trustees of the Massachusetts State Sanatorium.

GENTLEMEN:—My first annual report was made to end on Oct. 10, 1899, because that date was exactly one year from the day when the sanatorium (then called hospital) received its

first patients. To conform, however, to the other reports, my second annual is made to end on Sept. 30, 1900, which makes the period to be covered, and now under consideration, less than a full year by about ten days.

During this time there have been admitted to the sanatorium under my care 143 patients; these, with the 77 remaining at the time of my last report, Oct. 10, 1899, make a total of 220 patients treated during the year. Out of this number, 144 (69 males and 75 females) have been discharged. Of these discharged patients, 12 had remained in the sanatorium, for one reason or another, less than one month, which was of course too short a time to warrant deductions as to the efficacy of treatment, although some of them manifestly improved. One of these 12 entered the sanatorium in practically a moribund condition, and died in a very few days. She had been accepted on examination three or four weeks previously, but did not come to Rutland when requested to do so, because, as she afterwards explained, she was suddenly taken sick at home. At last she forced herself to take the journey, but on reaching the sanatorium was too much exhausted by the acute miliary tuberculosis (which had meantime complicated the disease) to allow of her being sent home. A regulation has since been adopted requiring a second examination of "passed" applicants who do not enter for two or three weeks or more.

Leaving out of consideration these 12, we have 132 discharged patients, whose cases will be considered statistically in this report. Of these cases, 82 on admission were incipient, 40 were moderately advanced and 10 were far advanced, according to the definition of these stages given in my report of one year ago. By "incipient" cases are meant those which present evidence of a small tubercular deposit in one or both lungs, but without very decided constitutional disturbances. By "moderately advanced" cases are meant those where the tubercular deposits are larger and are beginning to soften, and the constitutional disturbances are prominent; or where, without an extensive infiltration, the pronounced rational symptoms indicate a greater susceptibility of the system to the poison. Far advanced cases require no definition.

The average length of stay of these patients was six months and six days. Only 14 remained longer than one year.

The results of treatment are clearly shown by the following tabular view, not only for the 82 "incipient" cases, but also for the 40 "moderately advanced" and the 10 "far advanced" cases, under the headings of "apparently cured or arrested," "improved," "not improved" and "died." The reasons for the selection of these headings were given in my last report. Finally, the results for all stages of the disease combined appear under the same headings. In the latter line, of the 49 improved, 28 were certainly very much improved.

132 Patients who remained from 1 Month to 19 $\frac{2}{3}$ Months.

CONDITION ON ADMISSION.	Apparently Cured or Arrested.	Improved.	Not Improved.	Died.
Incipient cases (82),	53	28	1	—
Moderately advanced cases (40),	6	18	15	1
Far advanced cases (10),	—	3	6	1
Total (132),	59	49	22	2

From these tables the following very favorable percentages may be obtained:—

Of the "incipient" cases there were —	Per Cent.
Apparently cured or arrested,	64 $\frac{1}{2}$
Improved (including also greatly improved),	34+
Not improved (worse),	1+

Of the "moderately advanced" cases there were —	
Apparently cured or arrested,	15
Improved (including also greatly improved),	45
Not improved (including worse),	37 $\frac{1}{2}$
Died,	2 $\frac{1}{2}$

Of the "far advanced" cases there were —	
Improved,	30
Not improved (worse),	60
Died,	10

Of all the cases in my service there were —	
Apparently cured or arrested,	45
Improved (including much improved),	37
Not improved (including worse),	16 $\frac{1}{2}$
Died,	1 $\frac{1}{2}$

As in my last report, the expression “apparently cured” indicates cases in which the phthisical cough, fever, etc., are practically gone, no tubercle bacilli being found in the sputum (or there being no expectoration), and the physical signs either having entirely disappeared, or, if any remain, indicating a healed lesion.

Tubercle bacilli were found in the expectoration of 117 of my patients and were not found in 15 cases. The sputum from the whole of the sanatorium has been sent indiscriminately to the pathological laboratories of the Boston University and of the Harvard University medical schools, sometimes to one and sometimes to the other, just as it happened.

Of the 15 cases in which no tubercle bacilli were found, 7 had no sputum to examine. Of these 7, 3 had had hemorrhages, 1 had a tubercular knee (which has since been operated on at one of our hospitals in Boston), 2 had decided physical signs, and the last had constitutional symptoms which made it at least very suspicious. Of the 8 cases where sputum existed but contained no bacilli, 3 had had hemorrhages, 1 was so far advanced that the patient died in the Cullis Consumptives' Home within a few weeks after leaving the sanatorium, 1 was an old and well-marked case of fibroid phthisis, and the other 3 were incipient cases with physical signs and symptoms fairly well marked, if not absolutely conclusive.

The greatest weight gained by any patient discharged during the year was 49 pounds. Of the 132 patients, 127 gained weight during their stay, and the average gain was $13\frac{2}{3}$ pounds. Five lost weight, and the average loss was 4 pounds. This is certainly a very satisfactory showing.

The better results obtained this year, as compared with last, are undoubtedly owing, to a great extent, to the fact that, more applications for admission having been received, a more judicious selection of patients, as to physical condition, could be made. Still more satisfactory work could be done if the applications were so numerous that only incipient cases could be admitted. One practical difficulty now in the way of our admitting only such cases is to be found in the fact that very frequently persons in the early stages of consumption are either unaware of their condition, or, on being informed, are very reluctant to believe it, and persistently refuse to do the right

thing, because they deem it unnecessary, or else because they feel that they cannot afford to give up work in order to attend to themselves. When, however, they have pursued this policy long enough to become incurable, they are willing enough and anxious enough to do anything, whether it be in their power or not. The large number of such applicants, many of whom have exhausted all or nearly all of their resources, is exceedingly distressing and pitiable indeed, and constantly calls attention to the great need which exists for some suitable provision for this unfortunate class of advanced consumptives, to be made either by our Commonwealth, or, perhaps better, by districts, counties, cities or towns.

An erroneous idea prevails to some extent among certain physicians in Massachusetts that our rejection of an applicant necessarily means incurability. This is far from being the case. We endeavor to select from among the applicants those who seem most likely to improve, and that to the greatest extent and in the shortest time, so that the beds can be occupied by as many patients as possible in succession, and can thus do the most good to the greatest number. The standard of admission may vary somewhat from time to time, according to the number and physical condition of the applicants.

An effort has lately been made to ascertain, as far as possible, the present condition of the 29 patients who were reported as apparently cured or arrested cases in my first year of service, and who are now more or less widely scattered. A carefully drawn up letter, with numerous questions designed to elicit information as to the presence or absence of important symptoms, the ability to work, etc., was printed and sent to these former patients, and all but 1 replied. To my great gratification, the answers indicated that 24 or 25 out of the 29 still remained up to that time in pretty good condition, in spite of the fact that in some cases it was impossible to avoid unhygienic surroundings. Of about one-third of these patients I was able to make a physical examination, which corroborated these conclusions. Very likely some allowance is to be made for optimism in the reports of those not thus examined, but not, I think, sufficient very materially to influence the results. As if to compensate for these relapses, 4 of those who had been reported as improved only when discharged in the

first year, were found to have advanced in health, as a result of a careful outside continuance of the treatment initiated at our sanatorium, sufficiently to warrant the change of designation to apparently cured or arrested.

It may not be out of place to add that your physicians are eagerly looking forward to the erection of the hall for recreation, religious services, and other public gatherings, which is sorely needed, as well as of the administration building with proper examination and waiting rooms, laboratory, throat room, etc., also the new dining hall, all of which will be valuable additions to the equipment of the institution.

I desire to record here my continued satisfaction with the work of my assistant, Dr. D. P. Butler, Jr., who has been very faithful in the performance of all his duties. The nurses, too, as last year, have been very efficient.

Respectfully submitted,

HERBERT C. CLAPP, M.D.

LIST OF WAGES.

Examining and visiting physicians (per annum), each,	\$2,500 00
Superintendent and treasurer (per annum),	2,000 00
Matron and superintendent of nurses (per annum),	1,000 00
Assistant physicians (per annum), each,	600 00
Chief engineer, with meals (per annum),	1,200 00
Supervisor, without living (per annum),	800 00
Book-keeper (per annum),	500 00
Nurses, day (per month),	30 00
Nurses, night (per month),	35 00
Stenographer (per month),	30 00
Assistant engineer, without living (per month),	60 00
Assistant engineer, without living (per month), for six months,	50 00
Cook (per month),	80 00
Assistant cook (per month),	38 50
Baker (per month),	60 00
Baker's assistant (per month),	25 00
Fireman (per month),	38 00
Fireman (per month), for six months,	40 00
Carpenter, without living (per day),	2 00
Head laundress (per month),	25 00
Laundry help, female (per month),	\$15 00 to 20 00
Laundry help, male (per month),	20 00
Ward help, female (per month),	\$13 00 to 15 00
Ward help, male (per month),	15 00
General work (per month),	15 00
Porter and messenger (per month),	25 00
Kitchen men (per month),	\$15 00 to 25 00
Coachman (per month),	20 00
Teamster (per month),	20 00
Farm help (per month),	\$15 00 to 22 50

FIFTH ANNUAL REPORT
OF
THE TRUSTEES
OF THE
MASSACHUSETTS
STATE SANATORIUM

AT RUTLAND.

SEPTEMBER 30, 1901.



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1902.

C

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OF THE

MASSACHUSETTS STATE SANATORIUM.

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Resident Officers.

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WILLIAM F. MOORE, . . .	<i>Chief Engineer.</i>
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Commonwealth of Massachusetts.

REPORT OF THE TRUSTEES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

The trustees of the Massachusetts State Sanatorium respectfully submit this their fifth annual report.

Early in the year the State Board of Charity, acting under directions of chapter 98, Resolves of 1900, met with the trustees, and after a most thorough exchange of views on the question of building a new sanatorium, decided the wiser course would be to enlarge the present institution to accommodate 250 patients, an increase of 75 to 80 over the present number, and to more completely equip it for carrying on its work. The suggestions for such enlargement and equipment were fully outlined in the trustees' report of 1900.

At the beginning of the legislative session of 1901 this Board petitioned that honorable body for an appropriation of \$110,000 to carry out the recommendations of the State Board of Charity. The petition was considered favorably and the full amount appropriated. This Board at once ordered plans and specifications made for an administration building, a dining hall and kitchen, recreation hall, lengthening of short wards and making them two stories in height, additional bath rooms in each ward, together with all necessary heating, ventilating, plumbing, lighting, etc.

The architects to whom this work was intrusted were Messrs. Kendall, Taylor & Stevens of Boston. The contracts have all been let, and the work of erecting the build-

ings is progressing fairly satisfactorily. It is hoped that by May of next year all the work will be completed and the building ready for occupancy.

The sanatorium has had its full quota of patients during the year, and from a perusal of the report of the treasurer it will be seen that the cost per patient has not been materially reduced over the previous year. This expense seems large, but how to reduce it is a problem that the trustees have not as yet been able to solve.

The matter of free patients is a very important factor in the expenses of the institution. The utmost care is taken to investigate thoroughly all cases where application is made for free treatment, admitting, in a few instances only, such cases as are very hopeful in the opinion of the examining physicians. There are, however, not a few patients whose cases are progressing favorably and who pay as long as they or their friends have anything to pay with. To dismiss such patients during the progressive stage in their recovery to health would defeat the object for which the sanatorium was created, and yet it is an item of expense that increases very materially the per capita cost.

It is to be expected that the greater number of patients to be provided for by the additions to the sanatorium will materially reduce the per capita expense.

The expense per patient during the year was \$9.47 per week, a reduction of $27\frac{1}{2}$ cents per week from the cost in 1900, or a saving of \$2,400 for the year. It is, however, manifest that in an institution of this kind a much higher cost for maintenance per patient than the expense in other State institutions is inevitable.

The farm experiment bids fair to be a factor in reducing this expense. In the judgment of the trustees more land could be worked with advantage to the sanatorium and profit to the State, and they would advise and urge the purchase of 50 to 75 acres more of tillage land, and the erection of suitable farm buildings. We would recommend an appropriation of \$12,000 for this purpose. By a perusal of the report of the superintendent it will be seen that the patients have been doing light work on the grounds, such as cleaning up brush, picking up stones, etc. Aside from being a bene-

fit to the patients thus employed the work will eventually manifest itself in the improvement of the grounds.

As suggested in our report of last year a moderate expenditure of money each year in landscape architecture would in the course of a few years add very much to the attractiveness of the grounds surrounding the institution. The trustees would respectfully recommend an appropriation of \$2,000 for the above purpose, and \$1,000 for repair of roads.

The question has been before the Legislature, and freely discussed, as to the advisability of building another sanatorium for consumptives. It is the opinion of the medical experts that if the present institution confines its work to incipient cases it will meet all demands for some years to come.

There seems to be an impression among physicians in different parts of the State that patients can be admitted in the advanced stage of the disease. As the policy of the sanatorium has been to admit only incipient cases, the time of the examining physicians will be saved as well as expense to applicants for admission if they will be governed by this fact.

The appropriation of \$60,000 for maintenance the current year will all be needed, and with the probable addition of 80 more patients for six months the trustees would recommend an appropriation of \$75,000 for maintenance for the ensuing year.

Respectfully submitted,

WELLINGTON E. PARKHURST.
FRED. B. PERCY.
ALBERT C. GETCHELL.
JOHN C. HAMMOND.
A. W. ESLEECK.

REPORT OF SUPERINTENDENT AND TREASURER.

To the Trustees of the Massachusetts State Sanatorium.

I submit herewith my report as superintendent and treasurer of this institution for the year ending Sept. 30, 1901.

The following tables are self-explanatory :—

Admissions and Discharges.

PATIENTS.	Male.	Female.	Total.
Number of patients in the sanatorium Sept. 30, 1900,	82	94	176
Number admitted within the year,	193	206	399
Number discharged within the year,	199	203	402
Number of deaths,	—	1	1
Patients remaining in the sanatorium Sept. 30, 1901,	80	92	172
Daily average number of patients,	79	89	168

Residence of Patients admitted during the Year.

COUNTIES.	Patients.	COUNTIES.	Patients.
Suffolk,	143	Bristol,	14
Middlesex,	102	Plymouth,	9
Worcester,	46	Berkshire,	2
Essex,	34	Hampshire,	2
Norfolk,	28	Barnstable,	1
Hampden,	18		

Civil Condition.

	Male.	Female.	Total.
Unmarried,	117	124	241
Married,	77	71	148
Widowed,	5	5	10

Occupations.

	Male.	Female.		Male.	Female.
Baker,	1	—	Fireman,	1	—
Barber,	2	—	Gardener,	1	—
Blacksmith,	2	—	Hostler,	2	—
Boiler inspector,	1	—	Housewife,	—	70
Book-keeper,	9	9	Ice-cream maker,	1	—
Box maker,	1	—	Illustrator,	1	—
Brakeman,	1	—	Jeweller,	3	—
Builder,	2	—	Laborer,	4	—
Carpenter,	6	—	Janitor,	2	—
Cigar maker,	4	—	Lawyer,	1	—
Clerk,	25	10	Machinist,	10	—
Coachman,	3	—	Metal worker,	1	—
Conductor, electric railway,	3	—	Milliner,	—	1
Cook,	2	2	Musician,	1	2
Domestic,	—	32	Nurse maid,	—	1
Draftsman,	2	—	Nurse, student,	—	1
Dressmaker,	—	5	None,	1	15
Electrician,	2	—	Painter,	1	—
Elevator man,	1	—	Physician,	2	2
Engineer,	1	—	Plumber,	6	—
Engraver,	3	—	Printer,	5	—
Factory and mill operative,	36	26	Reporter,	3	—
Farmer,	1	—	Salespeople,	5	6
			Seamstress,	—	4
			Shipper,	1	—

Occupations — Concluded.

	Male.	Female.		Male.	Female.
Silversmith, . . .	1	—	Typesetter, . . .	—	1
Steamfitter, . . .	1	—	Upholsterer, . . .	2	—
Stenographer, . . .	3	4	Waiter, . . .	3	4
Student, . . .	8	7	Watchmaker, . . .	1	—
Tailor, . . .	1	1	Watchman, night, . . .	1	—
Teacher, . . .	—	3	Wheelwright, . . .	1	—
Teamster, . . .	6	—	Wool sorter, . . .	1	—
Travelling salesman,	4	—			

The Boston office of the sanatorium at 181 Tremont Street has been open throughout the year for examination of applicants on Wednesdays and Saturdays, from ten to twelve o'clock. Examinations of applicants have been made at the sanatorium on the regular days, Monday and Friday. There have appeared for examination at both places 1,100 applicants. Of the 399 patients admitted the average age is twenty-eight years.

The gardening, which we considered somewhat of an experiment last year, has this year assumed larger proportions and has been a success in every way. On the farm we have fenced a pasture for cows purchased this year, and are now supplying 60 quarts of milk daily. We believe these and other farming interests should be further developed.

We began during the summer to employ the men patients under supervision for a regular time daily on the grounds, caring for the roads, clearing the woodland, etc. This work has been of benefit physically to the patients. We hope in this way to beautify the grounds.

I wish here to acknowledge the receipt and to thank the donors of the card catalogue, the various newspapers and magazines sent to our library; also the wraps for patients. Warm wraps are always much appreciated, as we usually have some patient who is not prepared for the severity of the out-of-door life in winter.

Our thanks are also due the clergymen who have conducted services for us, friends who have provided entertainment, and others who have encouraged and helped.

With the exception of a little work kindly done by the Harvard Medical School and the Boston University School of Medicine all the microscopical work of the year has been done at the sanatorium.

The expenditures from the special appropriations, also the expenses for the year, are shown in the following statements:—

Cash on hand Oct. 1, 1900,	\$381 89	
Balance appropriation, 1900, for maintenance,	15,095 02	
Received from Commonwealth, portion of appropriation for maintenance, 1901,	35,108 36	
Received from patients for board and treatment,	27,414 81	
Received from cities and towns for support of patients, .	993 58	
Received from the State and from charitable associations for support of patients,	1,673 74	
Received from sale of clinical thermometers, furs, etc., .	1,834 57	
		<hr/>
		\$82,501 97

The expenses for the year ending Sept. 30, 1901, have been as follows:—

Salaries and wages,	\$29,325 00	
Provisions and supplies:—		
Fresh meat,	\$12,401 27	
Ham and bacon,	504 80	
Flour,	649 75	
Butter,	3,540 83	
Eggs,	3,451 98	
Milk,	6,056 02	
Groceries,	4,391 79	
Fruit and vegetables,	1,342 17	
Fresh fish,	594 85	
		<hr/>
		32,933 46
Water,	\$1,000 00	
Fuel and light,	8,159 49	
Medical supplies,	863 60	
Supplies for cuspidors,	929 05	
Household supplies and expenses,	3,062 91	
Engineer's supplies,	143 85	
		<hr/>
<i>Amounts carried forward,</i>	\$14,158 90	\$62,258 46

12 STATE SANATORIUM AT RUTLAND. [Oct.

<i>Amounts brought forward,</i>	\$14,158 90	\$62,258 46
Office supplies,	793 99	
Boston office, rent and attendance,	542 65	
Farm supplies,	930 97	
Grain and feed for stock,	846 29	
Farm repairs,	95 48	
Teaming and livery,	398 98	
Travelling expenses (trustees, visiting physicians and other officers),	1,647 49	
Freight,	473 15	
Express,	334 06	
Telephone,	389 54	
Telegraph,	10 72	
General repairs,	850 03	
	<u>\$21,472 25</u>	
Of which there remain unpaid bills amounting to	9,054 66	
		<u>12,417 59</u>
Total,		\$74,676 05

Extraordinary expense:—

Furs for patients,	\$310 15	
Clinical thermometers, furs, etc.,	1,086 34	
Household furnishings,	17 55	
Other miscellaneous,	457 66	
Total,	<u>—</u>	\$1,871 70
Rebate to patients,	271 37	
Liabilities as of fourth annual report, and paid this year:—		
Portion of water rent, 1900,	250 00	
Miscellaneous bills,	4,103 62	
Total extraordinary expense,	<u>—</u>	\$6,496 69
Cash on hand Sept. 30, 1901,		1,329 23
		<u>\$82,501 97</u>

RESOURCES.

Cash on hand Sept. 30, 1901,	\$1,329 23
Due from patients,	912 07
Due from cities and towns for support of patients,	675 89
Due from State and charitable associations for support of patients,	50 85
Balance of appropriation, 1901, for maintenance,	24,891 64
Supplies on hand Sept. 30, 1901,	2,773 35
Estimated income from patients to Dec. 31, 1901,	7,500 00

LIABILITIES.

Due for supplies, salaries and wages,	\$9,054 66
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SUMMARY OF CURRENT EXPENSES FOR THE YEAR ENDING SEPT. 30,
1901.

Total expenditures for current expenses,	\$74,676 05	
Liabilities for current expenses,	9,054 66	
	<hr/>	\$83,730 71
Supplies on hand Sept. 30, 1901,	\$2,773 35	
Supplies on hand Oct. 1, 1900,	1,974 60	
Making a deduction of,	<hr/>	798 75
		<hr/>
We have as total current expenses,		\$82,931 96

Dividing this amount by the total number of days for patients, 61,297, we have \$1.3529+ as the average cost per day, or \$9.47 per week.

SPECIAL APPROPRIATION, 1898, — GRADING.

Unexpended balance, as of fourth annual report,	\$30 65
October, 1900, schedule of bills,	30 65

SPECIAL APPROPRIATION, 1900, — FURNISHING, GRADING, PAINTING,
EXTENSION OF WATER PIPES, AND SUNDRY OTHER NECESSARY
IMPROVEMENTS.

Balance of appropriation, as of fourth annual report,	\$1,175 85
October, 1900, schedule of bills,	\$905 49
January, 1901, schedule of bills,	270 36
	<hr/>
	1,175 85

SPECIAL APPROPRIATION, 1900, — NEW DINING ROOM AND ASSEMBLY
HALL.

Appropriation, 1900,	\$18,000 00
Oct. 1, 1900, schedule of bills,	625 00

Unexpended balance,	\$17,375 00
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SPECIAL APPROPRIATION, 1901, — ENLARGEMENT OF BUILDINGS.

Appropriation, 1901,	\$110,000 00
June 1, 1901, schedule of bills,	\$387 12
July 19, 1901, schedule of bills,	758 10
July 26, 1901, schedule of bills,	2,178 84
Aug. 28, 1901, schedule of bills,	853 52
Sept. 14, 1901, schedule of bills,	7,000 00
	<hr/>
	11,177 58

Unexpended balance,	\$98,822 42
Unexpended balance, \$18,000 appropriation,	17,375 00

Amount available Sept. 30, 1901, for new buildings, etc., \$116,197 42

In concluding my report I thank your Board for your continued helpful counsel.

Respectfully,

WALTER J. MARCLEY.

RUTLAND, MASS., Oct. 17, 1901.

I have examined the accounts of the treasurer of the Massachusetts State Sanatorium and have found them correct.

(Signed) C. E. WATSON,
Expert Accountant.

REPORT OF THE EXAMINING AND VISITING PHYSICIANS.

SEPT. 30, 1901.

To the Trustees of the Massachusetts State Sanatorium.

GENTLEMEN : — It gives me great pleasure to be able to make such a gratifying report as the following of the third year of my service at the State Sanatorium, showing, as it does, better results than were obtained in either of my other years.

Whereas in the first year 64 per cent. and in the second year 64½ per cent. of all grades of incipient cases were apparently cured or arrested, in the third year this percentage became about 67; and if only the best grade of incipient cases should be counted, the percentage would be still higher.

Also, whereas in the first year 37 per cent. and in the second year 45 per cent. of all the cases of the disease in all its stages, including incipient, moderately advanced and far advanced, were apparently cured or arrested, in the third year this percentage rose to about 50.

The number of patients in my service one year ago was	. . . 76
The number admitted during the year was	. . . 169
The number treated during the year was	. . . 245
The number discharged during the year was	. . . 167
The number of patients now in my service, Sept. 30, 1901, is	. . . 78

Of the discharged patients, 82 were men and 85 were women. Of these 167, 20 remained in the sanatorium less than one month, which was manifestly too short a time to entitle them to consideration in a statistical report. Deducting these we have 147 patients who remained more than one month.

CONDITION ON ADMISSION.	Apparently Cured or Arrested	Improved.	Not Improved.	Died.
Incipient cases (92),*	62	25	5	—
Moderately advanced cases (52), .	12	34	5	1
Far advanced cases (3),	—	2	1	—
Total (147),	74	61	11	1

* The definitions of terms used are the same as in my former reports.

From this table can be obtained the following percentages : —

Of the incipient cases there were —

Apparently cured or arrested,	Per Cent. 67+
Improved (including also greatly improved),	27+
Not improved (including worse),	5+

Of the moderately advanced cases there were —

Apparently cured or arrested,	23+
Improved (including also greatly improved),	65+
Not improved (including worse),	10—
Died,	2—

Of the far advanced cases there were —

Improved,	67—
Not improved (worse),	33+

Of all the considered cases in my service there were —

Apparently cured or arrested,	50+
Improved (including much improved),	41½
Not improved (including worse),	7+
Died,	½+

The average stay of the 147 cases was	6½ months.
The number of those who stayed more than one year was	16
Of the 147 cases those who gained in weight numbered	143
The average gain in weight of these was	13¾ pounds.
The largest gain in weight of these was	41½ pounds.
Of the 147 cases those who lost in weight numbered	4
The average loss in weight of these 4 was	6½ pounds.

The patient who died was a woman forty years of age, who had been decidedly improving in general condition,

but who died very suddenly in the night from a copious hemorrhage.

Tubercle bacilli were found in the sputum of 117 of the 147 cases, and were not found in 30, although in some of these latter cases probably a more extended search in repeated examinations would have disclosed them. Indeed, in one case they were found only in the eleventh specimen and then quite abundantly. Not as many examinations of the sputum have been made this year as formerly. Of these 30 cases, 14 had no sputum to examine, and of these 14, 6 had had hemorrhages, one cervical adenitis, and all but 2 had had positive physical signs. Of the remaining 16, 10 had had hemorrhages; and in all the clinical picture, including physical signs, was undoubted.

Letters of inquiry as to the present condition of patients discharged as apparently cured during the first and second years have been recently sent out. No letters were sent to those discharged during the third year, as the time elapsed since their discharge has been comparatively short. The letters contained printed questions about symptoms, and answers to these questions were desired. A large majority responded, a few did not, and some were evidently not reached on account of change of address, as their letters were returned by the postal authorities unopened.

Some of these former patients also appeared for a physical examination, and others who did not answer were heard from indirectly. On account of the incompleteness of the reports no exact statistical tables can be prepared, but it is safe to say that almost all of these graduates have "held the fort" remarkably well, in spite of the fact that quite a number of them have been obliged to return to their old occupations and surroundings, in which the disease was developed. A great effort has been made not only to teach patients while in the sanatorium how to live hygienically, but also at the time of their discharge to impress upon them as forcibly as possible the urgent necessity for a continuance of the healthy life, so far as in them lies. If an occasional symptom of their former invalidism has reappeared in a few cases, it has, as a rule, been only temporary, and the great majority have been restored to lives of active usefulness.

A few have failed, as was to be expected, but only one of the entire number (88), as far as can be learned, has died.

It is interesting to note that in the three years during which our State Sanatorium has been in operation practically *no alcohol* whatever has been used in the treatment of patients, and yet our success has been phenomenal. For a long time, until within a few years, the almost universal custom has been (as it is now with some physicians) to give it, often in large doses, to every consumptive as a routine measure, and the doctor who withheld it was looked upon as culpably negligent. The late Dr. Austin Flint of New York, one of the most illustrious authorities in this disease that America has ever produced, often recommended it to be taken continuously, in the form of whiskey, in varying doses up to a pint in twenty-four hours, and comparatively few physicians disagreed with him as to the wisdom of such a course.

Of late years, however, the opinion has been fast gaining ground with many that such treatment is unwise and prejudicial, and that greater success can be obtained without it. Indeed, it is now believed by many eminent phthisiologists that, instead of exercising any antagonistic influence, alcohol is one of the most common and powerful causes of the disease. At the recent British Congress of Tuberculosis, with expert representatives present from the whole world, the eminent Professor Brouardel of Paris in his paper claimed that "alcoholism is the most potent factor in propagating tuberculosis." Surely our experience at Rutland, in this bleak New England climate, has proved at least that alcohol is not a necessity in the successful treatment of consumption. Some of our patients have taken a few drops of wine with their raw eggs, to correct the flat taste, but the amount of alcohol thus used has been too small to do either harm or good.

Our experience at Rutland for three years would also seem to show that cod liver oil is not, as many practically believe, an indispensable agent in the successful treatment of phthisis. Only a small percentage of our patients (perhaps 5 per cent.) have had any at all, and these not continuously. Its use has been restricted to those cases in which

little or no weight was gained under the ordinary sanatorium diet, and in these, as a rule, it did not seem to produce any remarkable effects.

On the first of January, 1901, my assistant physician, Dr. D. P. Butler, Jr., resigned the position in which he had given such general satisfaction for two years and three months, in order to enter private practice.

We were fortunate in securing as his successor Dr. George N. Lapham, a man of ability and education, who has since very faithfully performed the duties assigned to him.

Respectfully submitted,

HERBERT C. CLAPP, M.D.

Oct. 1, 1901.

To the Trustees of the State Sanatorium.

GENTLEMEN:—I have the honor of presenting to you the results obtained in my service from Oct. 1, 1900, to Oct. 1, 1901.

With the present capacity of the sanatorium there are on an average 95 patients continually under treatment in my department.

The number of patients discharged during the year is . . .	235
The number who remained less than one month and whose cases are not considered in the report is . . .	34
The number taken into consideration in the report is . . .	201
Of these, 3 had been readmitted.	

It should be stated here that of the 34 cases which are not considered only 2 were unfavorable cases; the other 32 were promising cases, but for a variety of reasons were obliged to leave the institution before the full effect of a stay at Rutland could be fairly judged. Several, after short observation, were thought to be non-tuberculous and were therefore discharged.

Number of women under treatment, . . .	99
Number of men under treatment, . . .	102
Average age, . . .	28 years.
The average length of stay was . . .	6 months.

Of the 201 cases, 85, or 42.23 per cent., left with the disease "arrested." In the use of this term I have adhered to the same method which I have always employed hitherto in classifying these cases. The term is applied to the cases in which cough, expectoration, bacilli and fever have disappeared, and where the appearance and general condition have been one of health. The term "cured" or "apparently cured" I do not use until, after the lapse of one or two years, the patient shows no symptoms of relapse.

The greatest care has been used not to apply the term "arrested" to any case except under the conditions above mentioned, although many cases have been classed as "very much improved" when their condition would perhaps warrant a more favorable term.

Of the entire number discharged only 8, or 3.98 per cent., were "not improved." Of the purely "incipient" cases (*i.e.*, not including "well-marked incipient" cases referred to in the table which follows), 35 out of 44 were "arrested," or 79+ per cent.

The following table will show concisely both the condition of the patients upon entrance and the result of the treatment:—

Table of Results.

	Incipient.	Well-marked Incipient.	Moderately Advanced.	Advanced (Each having fair-sized cavity).	Totals.	Percentages.
Arrested,	35 (9)	35 (10)	12 (8)	3 (3)	85	42.2+
Very much improved,	5	23 (10)	13 (7)	4 (3)	45	22.3+
Much improved, .	1 (1)	10 (10)	19 (15)	1	31	15.4+
Improved, . . .	3 (1)	10 (10)	16 (13)	3 (3)	32	15.9+
Not improved, . .	0	2 (2)	3 (3)	3 (3)	8	3.9+
Totals,	44	80	63	14	201	—
Percentages, . .	22	40	31	7	—	—

NOTE.—The figures in parentheses denote those having symptoms indicating an active process, *i.e.*, fever, high pulse, etc.

There were no deaths this year.

The term "incipient" is used in those cases in which the physical signs are confined to small areas, namely, in one or both apices of the lungs.

The term "well-marked incipient" is used where larger areas are involved, the physical signs being more defined.

The term "moderately advanced" refers to large areas with signs of disease very marked (dulness, bubbling rales and bronchial respiration), in fact, any degree of physical signs between that just indicated as "well-marked incipient" and the last stage, which is indicated by the term "advanced," and which means that well-marked cavity formation is present.

All of the above stages have more or less constitutional disturbance, which is indicated, as far as possible, by figures in parentheses on the table, denoting the number having fever, rapid pulse, etc., for some time.

A careful perusal of these tables will show that although the sanatorium is intended really for the reception of *incipient* cases with slight signs only, a large number in whom the disease was well-marked and even advanced have been received when there was a prospect of improvement. The results in the latter have often been most surprising and gratifying.

The average duration of symptoms of disease prior to entrance in all cases was 15.7 months.

This is a very conservative estimate, which will prove that the cases treated at Rutland are not confined to the incipient class.

Hæmoptysis had occurred in	100 cases.
Bacilli of tuberculosis were found in	158 cases.
Tuberculin reaction was positive in	17 cases.
There was sufficient evidence of pulmonary disease (hæmoptysis, abnormal physical signs in the chest, etc.), without the necessity of using tuberculin, in	26 cases.
Total,	201

	Months.	Days.
Of the "arrested" cases the longest stay was	14	7
Of the "arrested" cases the average stay was	5	12
Of the "arrested" cases the shortest stay was	1	8
Of the "very much improved" cases the longest stay was	22	22
Of the "much improved" cases the longest stay was	16	-

	Pounds.
Average gain in weight of all cases,	14.2
Average gain in weight of "arrested" cases,	14.3
Average gain in weight of all grades of "improved" cases, . .	13.9
Average gain in weight of all cases (201),	14.2
Greatest gain in weight of "arrested" cases,	36
Greatest gain in weight of "very much improved" cases, . .	32½
Greatest gain in weight of "much improved" cases,	28
Greatest gain in weight of "improved" cases,	21½
Greatest gain in weight of "not improved" cases,	2½

Comparison of Percentages in the First, Second and Third Years.

	1898-99.	1899-1900.	1900-1901.
Number of "arrested" cases,	30.97	39.7	42.23
Number of all classes of "improved" cases,	46.10	52.4	53.79
Number of "not improved" cases,	21.23	7.9	3.98

It will thus be seen that there has been a steady improvement in the results obtained thus far at the sanatorium.

This is doubtless due to increased facilities for work and larger experience. It also illustrates the great importance of having in the hospital a corps of medical assistants whose medical knowledge, judgment and devotion to their work can be absolutely relied upon. Speaking for my own department from personal knowledge, I am glad to state that thus far we have been particularly fortunate. No one can possibly judge as well as the attending physicians how much the welfare of the institution depends upon this factor.

SUBSEQUENT HISTORIES OF FORMER PATIENTS, DISCHARGED FROM TWO TO TWO AND ONE-HALF YEARS AGO.

I quote the returns as prepared by my assistant, Dr. Dunham.

"Of the 35 cases tabulated as 'arrested' at the time of discharge during the year 1898-99, all are believed to be alive and in good condition with the exception of 2, who died this year after a residence of nearly two years on the coast. The circumstances involving the relapse and death make the result in each case anything but surprising. The following is the subsequent history of one of these cases: female, age 24, discharged in September, 1899. She returned to her home in the thickly settled portion of Boston. Her health remained good for one year. During this time she married

and moved to a cheap tenement to live. A child was born, which she nursed for a short time and then the old symptoms reappeared. Instead of taking a necessary rest she continued with the housework and took care of a sick parent. She could not afford to hire assistance nor take the treatment which first had proved so beneficial. Death occurred one year and eight months after discharge.

Of the 33 remaining cases, 26 are known to be well and have been at work since discharge. We have personally examined many of these cases recently.

Seven of the cases have received our latest circulars of inquiry (September, 1901), but as yet have not taken the time to reply.

The 7 patients discharged as 'improved,' and in whom the disease subsequently became 'arrested' (see report Sept. 30, 1900), are still in the same excellent condition of 'arrest.'

CASES FROM THE YEAR PRIOR TO SEPT. 30, 1900, DISCHARGED FROM ONE TO TWO YEARS AGO.

Of the 56 cases tabulated as 'arrested' at the time of discharge during the year 1899-1900, all are alive and in good condition with the exception of 4, who have relapsed. Two weeks after the date of this report it is known that one of these relapsed cases has died. Eleven months were spent in the west without checking the disease, the fatal termination being due to an unwise attempt at work.

At least 3 of the cases classified under the head of improvement at the time of discharge have since lost every symptom of the disease and are now considered as 'arrested.' All of these cases are called upon to answer a list of questions, which are very searching in their bearing upon the physical condition. Many of the cases were so situated that we were able to make a personal physical examination. Three of the 'arrested' cases, whom we have every reason to believe to be in good condition, as stated, have not, as yet, replied to our circulars. Fifty out of these 56 patients are known to have been engaged in employments as arduous, although as a rule more healthful, than those in which they were engaged before their illness."

NEEDS OF THE SANATORIUM.

The physicians regard with the greatest satisfaction the appropriation of money to give them increased facilities for their work. The following suggestions are made after deliberate thought and observation of the needs of the institution:—

With the increased number of patients, when the new wards are opened, the presence of a trained medical assistant for the assistant physician is essential. His duties should be to take the histories of all patients applying for admission to the sanatorium, a work which now necessarily devolves upon some one untrained for this purpose, with the consequent inevitable annoying inaccuracies of statement which have to be rectified later. He should attend to all medical duties which are detailed to him by the assistant physician, both at the sanatorium or possibly at the examining office in Boston, and should be able to act as deputy for the assistant physician in the event of the latter's illness or absence. His term of service should last at least six months, better still, a year, and a salary should be offered.

In addition to this a medical student should be employed to assist in the laboratory, by which more thorough work than is now possible can be done. Such a student could no doubt be found in the Boston medical schools, and could act for both departments in the sanatorium. His term of service should be from two to three months, without salary.

The present arrangements in this department are quite inadequate for an institution of the nature and scope of the Rutland Sanatorium.

We have accomplished excellent work thus far, but a change is necessary in order not only to meet the greater demands upon the physicians but to place the sanatorium upon a still higher plane.

In regard to the examining office in Boston, the ever-increasing number of applicants demand more commodious and, if possible, less noisy quarters. Applicants are now often obliged to stand far out into the corridor; the air in the rooms is often stifling and most oppressive for both physicians and patients. Former patients of the sanatorium,

moreover, are continually returning to the office to report their condition. As time goes by this number will naturally increase. As the subsequent histories of former patients are of vital interest to the institution, it is essential that proper facilities should be offered to encourage this action on their part. It is now practically impossible for the physicians to meet this condition satisfactorily.

When the new administration building is finished, or before that time if possible, the physicians trust that a clerk may be employed by the superintendent whose *first* duty shall be to attend to all filing, indexing or typewriting of medical records, so that they may be accessible at a moment's notice. He should also be deputed to follow up the histories of discharged patients by sending circulars at stated intervals, with requests for replies, and answers to be properly filed. Up to the present time we have been working under great disadvantages in this special direction.

In connection with the new laboratory a room arranged for examinations with a proper X-ray machine is an improvement greatly to be desired. A room also for the use of inhalations is a necessary accompaniment of any institution of this nature.

As in the report of last year, I wish to emphasize the importance of having some arrangement by which a small "probation hospital" or "reception cottage" can be placed near the sanatorium, where a certain number of applicants can enter for trial to see if improvement or otherwise takes place during their tentative stay in Rutland. From this building cases can be selected for admission to the sanatorium as soon as a vacancy occurs, and not only will this obviate delays in filling the empty beds but the candidates for admission will be saving valuable time which otherwise will probably be spent, to their disadvantage, in their homes, pending the time of their admission.

It has been a great source of satisfaction during the past year to note the ever-increasing interest in the medical profession over the work in Rutland. We have been honored by visits of deputations of students from the medical schools as well as from members of the profession. The enthusiasm expressed has been as helpful as it was apparently heartfelt.

Constant proofs, moreover, are being shown of the great value of the sanatorium as an educational centre for the community. As has been often said, it helps not only the individual but the community at large to see that fresh air, good food and judicious exercise are required not only for the cure of pulmonary disease but that they are the chief factors in prevention of diseases which arise from lack of these essentials.

In closing my report I wish to again gratefully acknowledge the invaluable services of my assistant, Dr. Henry B. Dunham, and to express my appreciation of the ever kind co-operation of Dr. Marcley, Miss Thrasher, their assistants and the nurses.

I remain, gentlemen, respectfully yours,

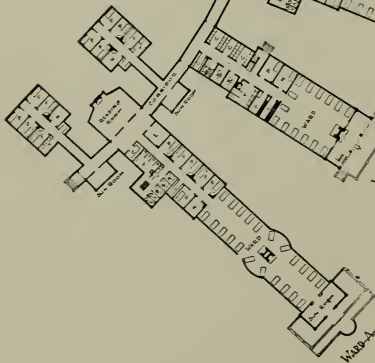
VINCENT Y. BOWDITCH.

LIST OF WAGES.

Examining and visiting physicians (per annum), each, . . .	\$2,500 00
Superintendent and treasurer (per annum), . . .	2,000 00
Matron and superintendent of nurses (per annum), . . .	1,000 00
Assistant physicians (per annum), . . .	600 00
Chief engineer, with meals (per annum), . . .	1,200 00
Supervisor, without living (per annum), . . .	800 00
Book-keeper (per annum), . . .	600 00
Assistant matron (per month), . . .	35 00
Nurses, day (per month), . . .	30 00
Nurses, night (per month), . . .	35 00
Stenographer (per month), . . .	30 00
Clerk (per month), . . .	15 00
Assistant engineer, without living (per month), . . .	60 00
Assistant engineer, without living (per month), for six months,	45 00
Cook (per month), . . .	80 00
Assistant cook (per month), . . .	38 50
Baker (per month), . . .	60 00
Baker's assistant (per month), . . .	25 00
Fireman (per month), . . .	40 00
Fireman (per month), for nine months, . . .	40 00
Fireman (per month), for three months, . . .	10 00
Carpenter, without living (per day), . . .	2 25
Head laundress (per month), . . .	25 00
Laundry help, female (per month), . . .	\$15 00 to 20 00
Laundry help, male (per month), . . .	20 00
Ward help, female (per month), . . .	\$13 00 to 15 00
Ward help, male (per month), . . .	15 00
General work (per month), . . .	15 00
Porter and messenger (per month), . . .	25 00
Kitchen men (per month), . . .	\$15 00 to 25 00
Coachman (per month), . . .	20 00
Teamster (per month), . . .	20 00
Farm help (per month), . . .	\$15 00 to 22 50

BLOCK PLAN

KENDALL TAYLOR &



Key to Vascular Bundles

1 Bark Zones
2 Cambium and Vessel Zones
3 Vessel Zones
4 Secondary Xylem
5 Secondary Phloem
6 Pith Zones
7 Pith Cells
8 Pith Rays
9 Pith

ADMINISTRATION BUILDING

[illegible]

SIXTH ANNUAL REPORT
OF
THE TRUSTEES
OF THE
MASSACHUSETTS
STATE SANATORIUM
AT RUTLAND.
SEPTEMBER 30, 1902.



BOSTON:
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1903.

W.

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THE STATE BOARD OF PUBLICATION.

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OFFICERS

OF THE

MASSACHUSETTS STATE SANATORIUM.

TRUSTEES.

FREDERICK B. PERCY, M.D.,	BROOKLINE.
ALBERT C. GETCHELL, M.D.,	. . . . .	WORCESTER.
JOHN C. HAMMOND,	. . . . .	NORTHAMPTON.
A. W. ESLEECK,	. . . . .	HOLYOKE.
W. E. PARKHURST,	. . . . .	CLINTON.

EXAMINING AND VISITING PHYSICIANS.

VINCENT Y. BOWDITCH, M.D.,	. . . . .	BOSTON.
HERBERT C. CLAPP, M.D.,	. . . . .	BOSTON.

RESIDENT OFFICERS.

WALTER J. MARCLEY, M.D.,	. . . . .	<i>Superintendent and Treasurer.</i>
MARY E. THRASHER,	. . . . .	<i>Matron and Superintendent of Nurses.</i>
HENRY B. DUNHAM, M.D.,	. . . . .	<i>Assistant Physician.</i>
GEORGE N. LAPHAM, M.D.,	. . . . .	<i>Assistant Physician.</i>
WILLIAM F. MOORE,	. . . . .	<i>Chief Engineer.</i>
CHARLES E. CARROLL,	. . . . .	<i>Bookkeeper.</i>
FREDERICK H. DRURY,	. . . . .	<i>Supervisor.</i>

Commonwealth of Massachusetts.

REPORT OF THE TRUSTEES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

The trustees of the Massachusetts State Sanatorium respectfully submit this their sixth annual report.

Under an appropriation made at the last session of the Legislature we have this year erected as an extension of this institution, for the better accommodation of the patients and for the treatment of an increased number, five new buildings; an administration building, which affords suitable apartments for the officials of the sanatorium, rooms for the examination of applicants for admission, and for the medical library, with apartments for the superintendent; a recreation hall, for the diversified entertainments which the patients may improvise and give, admirably adapted for Sunday services and amply large to accommodate all the patients; a convenient and spacious dining room, for the better and more ready service of food than has been had in previous years, where all the inmates may take their meals; and two new wards, which, with the old wards and rooms previously occupied by the administrative department, will accommodate 75 more patients, or a total of 250.

These new buildings were designed by Messrs. Kendall, Taylor & Stevens, architects, of Boston, whose careful forethought in the planning, supplemented by professional attention and practical suggestions offered during the process of construction, have given us buildings which in exterior and interior finish are proving highly satisfactory. The contractors were Messrs. H. P. Cummings & Co. of Ware, who have completed their task in a very thorough manner; and a record

should also be made of the valuable service rendered by Thos. S. Wentworth, clerk of the works, a former patient, who died while in this service.

For the purpose of making needful provision for supplying the tables of the institution, and utilizing, so far as may be possible, the services of the male patients, and under a special appropriation made by the Legislature, some 45 acres of land have been bought on favorable terms; and we are convinced that, by the demolition of the old farm buildings now located in the foreground of the tract occupied by the sanatorium buildings, and the building of a barn on the farther side of the highway, on the newly purchased land, special additional facilities will be gained for the profitable cultivation of the farm land; and, with a hennery, will enable us to obtain at prices decidedly less than present cost the milk, eggs and vegetables upon which the patients so largely rely for an invigorating diet. And we recommend that authority be given to buy a small additional tract of land, provided it shall be necessary to secure a better location for the proposed barn.

To meet the requirements following an increase of 50 per cent. in the number of our patients, it has been deemed necessary to secure the services of a third assistant resident physician; and, that the institution may be conducted on an economical basis, the two examining physicians, to whom the sanatorium is heavily indebted for the prosperity and success already attained, have generously consented to a reduction in their salaries from \$2,500 to \$1,500 each.

The rate of expense per capita has caused much comment, and has received the very closest and special attention from the trustees. We are satisfied that every possible economy is practised, and that it is and will be necessarily a continued large expense per capita. A sanatorium devoted, as is ours, to the cure of patients, must provide medical attendance, a nursing force, an especially expensive table with substantial diet, and all the details prescribed as tending towards the desired results.

The trustees call the attention of the authorities to the fact that all supplies are brought to the sanatorium from the Muschopauge railroad station, over one and one-half miles of public highway, which in some of its sections is in a very poor condi-

tion, being almost impassable at times in the spring, which naturally increases the inconvenience and expense. The town of Rutland and the general public use this road far less than it is used by the sanatorium and those having business with it. We would suggest that it would be in the interest of economy to appropriate an amount sufficient for the macadamizing of a portion or all of this highway; and perhaps the expenditure of a specific sum of money could be economically done by the State Highway Commission, with its experience in making contracts and its official facilities.

As evidence that the methods and success of the sanatorium, under the efficient supervision of the superintendent and the matron, are enjoying a wide and favorable reputation, mention may be made of the fact that during the past year it has been visited by officials and medical experts from ten different States between the Atlantic Ocean and the Mississippi valley, for the purpose of investigation and inquiry, and in some of these States initial measures have already been taken looking to the establishment of sanatoria on a basis similar to that of Rutland.

Our estimates of necessary appropriations for the coming year are as follows: —

Maintenance,	\$90,000 00
Farm barn,	15,000 00
Hennery,	2,000 00
Grading, grounds and roads,	3,000 00
Nurses' home,	5,500 00
Screens for all old buildings and additional furnishings for new buildings,	4,000 00

An unused balance remains on hand of \$5,000, — an appropriation of \$3,000 for a coal yard railroad trestle and \$2,000 for additional boiler and other equipment.

FRED. B. PERCY,
ALBERT C. GETCHELL,
JOHN C. HAMMOND,
A. W. ESLEECK,
W. E. PARKHURST,

Trustees.

REPORT OF SUPERINTENDENT AND TREASURER.

To the Trustees of the Massachusetts State Sanatorium.

I herewith submit my report as superintendent and treasurer of the institution for the year ending Sept. 30, 1902.

Admissions and Discharges.

PATIENTS.	Male.	Female.	Total.
Number of patients in the sanatorium Oct. 1, 1901, .	80	92	172
Number admitted within the year,	213	254	467
Number discharged during the year,	168	220	388
Number of deaths,	1	2	3
Patients remaining at the sanatorium Sept. 30, 1902, .	124	124	248
Daily average number of patients,	84	93	177

Residence of Patients admitted during the Year.

COUNTIES.	Patients.	COUNTIES.	Patients.
Suffolk,	188	Hampden,	19
Middlesex,	97	Plymouth,	12
Essex,	46	Berkshire,	8
Worcester,	39	Hampshire,	4
Norfolk,	29	Barnstable,	3
Bristol,	21	Franklin,	1

Occupations.

	Male.	Female.		Male.	Female.
Artist,	1	—	Electrotyper, . . .	1	—
Bakers,	2	—	Engineer, civil, . .	1	—
Barbers,	3	—	Engineers, stationary,	2	—
Bartender,	1	—	Engineer, mining, . .	1	—
Blacksmiths,	2	—	Factory and mill		
Bookbinders,	1	3	operatives,	34	27
Bookkeepers,	3	7	Farmers,	3	—
Box makers,	1	4	Fireman,	1	—
Brakeman,	1	—	Gardeners,	2	—
Butchers,	2	—	Glassblower,	1	—
Butler,	1	—	Hairdresser,	—	1
Carpenters,	2	—	Harness makers, . . .	2	—
Cigar makers,	2	—	Hatter,	1	—
Clergyman,	1	—	Home work,	—	19
Clerks,	34	8	Hostlers,	2	—
Coachmen,	3	—	Housewives,	—	91
Compositor,	1	—	Iron moulder,	1	—
Contractor,	1	—	Janitors,	3	—
Conductors, electric			Jeweller,	1	—
railway,	2	—	Laborers,	7	—
Cooks,	2	1	Lawyer,	1	—
Dentists,	2	—	Letter carrier,	1	—
Designers,	2	—	Life saver,	1	—
Domestics,	—	16	Machinists,	13	—
Draftsman,	1	—	Marine,	1	—
Dressmakers,	—	6	Milliners,	—	5
Electrician,	1	—	Motormen,	2	—

Occupations — Concluded.

	Male.	Female.		Male.	Female.
Musician,	1	—	Stone mason,	2	—
Naval apprentice,	1	—	Store keepers,	4	—
Nurse maids,	—	5	Students,	10	15
Nurse, student,	—	1	Switchman,	1	—
None,	—	12	Tailors,	2	1
Plumber,	1	—	Teachers,	—	7
Printers,	2	—	Teamsters,	9	—
Salespeople,	15	4	Telegraph operator,	1	—
Seamstresses,	—	4	Telephone operator,	1	—
Shippers,	4	—	Travelling salesman,	1	—
Steam fitter,	1	—	Undertaker,	1	—
Stenographers,	—	8	Waiters,	2	9

Civil Condition.

	Male.	Female.	Total.
Unmarried,	127	145	272
Married,	78	104	182
Widowed,	4	9	13

The assembly hall occupied for the first time Easter Sunday, and the other new buildings first occupied in August, prove to be all that we had hoped for. Our capacity is now 250, and we are able to admit all cases favorable for treatment who apply for admission. We have built this year eight additional “camps” in the woods; we now have fifteen such shelters. They are a very important feature in the out-of-door life.

At the Boston office the work has continued satisfactorily.

More than one thousand applicants have appeared there for examination. As the number of graduate-patients increases, the importance of maintaining the Boston office increases proportionately. On every examining day, and at intervals of a month or more in each case, graduates return to the office in Boston for re-examination and advice. It is very important that the physicians devote considerable time to this phase of the work, for by this continued friendly oversight we can aid materially in keeping our patients up to the mark of proper living, and in educating the people in general.

The land whose purchase was provided for has been secured, and we are settling some of our outbuildings upon it. A new barn, hennery and other farm equipments are much needed. During the past year we have made 43,044 quarts of milk at an estimated saving of \$430.44. We should be equipped to produce more milk, and at least a partial supply of eggs. It is economy to spend a necessary sum for these purposes.

It was estimated last year that the sum of \$1,000 was needed for the repair of roads; \$500 was provided for that purpose. This amount is being expended. Further repairs are necessary. It is also hoped that some provision may be made for repairing the road to the station.

The past year has been marked more than any other year by an interest in our work on the part of the physicians of the State, many of whom have visited the institution. We are glad to welcome at any time physicians, medical students, nurses and any others who are professionally interested in the sanatorium.

We thank all friends who have assisted us in various ways, and all societies and private individuals who have given aid to our patients.

All my associates have been uniformly faithful to their duties.

The financial statement for the year is as follows: —

Cash on hand Oct. 1, 1902,	\$1,329 23
Received from State Treasurer, portion of appropriation of 1901,	24,748 65
Received from State Treasurer, portion of appropriation of 1902,	58,989 41
<i>Amount carried forward,</i>	<u>\$85,067 29</u>

<i>Amount brought forward.</i>	\$85,067 29
Received from patients for board and treatment,	28,025 67
Received from cities and towns for support of patients,	1,332 49
Received from State and from charitable associations for support of patients,	1,266 02
Received from sale of supplies to patients, also from stock, kitchen waste, etc.,	3,139 11
	<u>\$118,830 58</u>

The expenses for the year ending Sept. 30, 1902, have been as follows:—

Salaries and wages,	\$30,819 51
Food:—	
Butter,	\$3,820 41
Beans,	30 91
Bread and crackers,	67 53
Cereals, rice, meal, etc.,	497 67
Cheese,	87 66
Eggs,	4,061 85
Flour,	621 10
Fish,	608 93
Fruit,	800 71
Meats,	14,530 86
Milk,	6,143 28
Molasses and syrup,	45 37
Sugar,	796 93
Tea, coffee and cocoa,	263 68
Vegetables,	1,326 53
Sundries,	1,905 37
	<u>35,608 79</u>
Furnishings:—	
Beds, bedding, table linen, etc.,	\$1,163 89
Brushes, brooms, etc.,	100 07
Rugs, etc.,	110 52
Crockery, glassware, cutlery, etc.,	461 01
Furniture,	633 78
Kitchen furnishings,	237 93
Wooden ware, buckets, pails, etc.,	50 65
Sundries,	269 39
	<u>3,027 24</u>
Heat, light and power:—	
Coal,	\$6,460 02
Electricity,	257 62
Oil,	262 22
Sundries,	94 82
	<u>7,074 68</u>
<i>Amount carried forward,</i>	<u>\$76,530 22</u>

Amount brought forward, \$76,530 22

Repairs and improvements:—

Brick,	\$16 25
Cement, lime and plaster,	30 47
Electrical work and supplies,	31 23
Hardware,	215 61
Lumber,	329 95
Paints, oil, glass, etc.,	86 43
Plumbing, steam fitting and supplies,	254 15
Roofing and materials,	43 30
Mechanics and laborers (not on pay roll),	69 04
Sundries,	419 94

1,496 37

Miscellaneous:—

Books, periodicals, etc.,	\$42 30
Chapel services and entertainments,	302 99
Freight, expressage and transportation,	2,260 63
Hose, etc.,	139 17
Labor (not on pay roll),	148 40
Medicines and hospital supplies,	2,106 10
Medical attendance, etc. (extra),	8 00
Boston office,	553 50
Postage,	307 86
Printing, and printing supplies,	211 98
Cuspidor supplies,	1,365 10
Soap and laundry supplies,	702 24
Stationery and office supplies,	432 91
Travelling and other expenses of officials,	1,419 76
Telephone and telegraph,	457 29
Water,	1,000 00
Sundries,	1,408 47

12,866 70

Farm, stable and grounds:—

Blacksmith and supplies,	\$300 40
Fertilizer, seeds, etc.,	386 89
Hay, grain, etc.,	2,122 83
Harness and repairs,	52 75
Horses,	303 50
Cows,	683 00
Other live stock,	169 62
Labor (not on pay roll),	18 50
Tools, farm machines, etc.,	190 33
Sundries,	123 75

4,351 57

\$95,244 86

Of which there remain unpaid bills amounting to 11,076 55

Amount carried forward, \$84,168 31

<i>Amount brought forward,</i>	\$84,168 31
Extraordinary expense (carriages, wagons, etc.),	745 15
Sent to State Treasurer, cash receipts,	21,023 82
Cash receipts on hand to be sent,	3,840 39
Liabilities of 1901, and paid this year,	9,052 91
Total expenditures for the year,	<u>\$118,830 58</u>

RESOURCES.

Due from patients,	\$961 18
Due from cities and towns for support of patients,	457 07
Due from State and from charitable associations for support of patients,	351 93
Balance of appropriation, 1902,	16,010 59
Estimated income from patients to Dec. 1, 1901,	10,000 00
Cash receipts available,	<u>24,864 21</u>

LIABILITIES.

Unpaid bills for supplies, salaries and wages,	\$11,078 30
--	-------------

SUMMARY OF CURRENT EXPENSES FOR THE YEAR ENDING SEPT. 30, 1902.

Total expenses for the year,	\$95,244 86
Supplies, etc., sold,	3,139 11
	<u>\$92,105 75</u>

Dividing this amount by the total number of days for patients, 64,747, we have \$1.422 + as the average cost per day, or \$9.95 + per week.

SPECIAL APPROPRIATION, 1900,—NEW DINING ROOM AND ASSEMBLY HALL.

Unexpended balance,	\$17,375 00
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SPECIAL APPROPRIATION, 1901,—ENLARGEMENT OF BUILDING.

Appropriation,	110,000 00
	<u>\$127,375 00</u>
Paid H. P. Cummings Company, on contract,	\$76,862 32
G. M. Parks Company, on contract,	8,880 00
Daniel Finnerty, on contract,	9,906 00
architects,	4,519 44
clerk of works,	1,204 84
furnishings,	5,737 41
ice house,	1,019 94
extras on contract, general improvement, etc.,	11,537 14
	<u>119,667 09</u>
Balance,	<u>\$7,707 91</u>
<i>Amount carried forward,</i>	\$7,707 91

<i>Amount brought forward,</i>		\$7,707 91
Due on contract, H. P. Cummings Company,	\$1,000 00	
on contract, G. M. Parks Company,	440 99	
on contract, Daniel Finnerty,	500 00	
on contract, Kendall, Taylor & Stevens,	336 42	
on furnishings, C. H. McKenney Com- pany,	99 50	
	<hr/>	2,375 92
This amount will be needed for coal shed and additional equipment,		<hr/> \$5,331 99

SPECIAL APPROPRIATION, 1902, — PURCHASE OF LAND.

Appropriation,	\$2,000 00
July 12, 1902, paid Geo. W. Cowden for land,	2,000 00

RUTLAND, MASS., NOV. 19, 1902.

I have examined the accounts of the treasurer of the Massachusetts State Sanatorium and have found them correct.

(Signed) C. E. WATSON,
Expert Accountant.

In closing my report, I wish to thank your Board for your continued support.

Respectfully submitted,

WALTER J. MARCLEY.

REPORT OF THE EXAMINING AND VISITING PHYSICIANS.

OCT. 1, 1902.

To the Trustees of the State Sanatorium, Rutland, Mass.

GENTLEMEN: — I have the honor of presenting to you the report of my department for the year ending Sept. 30, 1902.

Until very recently the average number of patients under my supervision has been	95
Since the enlargement of the sanatorium the average number has been	128
The number of patients discharged from my department during the year is	227
The number who remained less than one month and whose cases are not considered in the report is	34
The number taken into consideration in the report is	193
Of these, 3 have been readmitted.	

It should be stated here that, of the 34 cases which are not considered, only 5 were unfavorable cases; the other 29 were promising cases, but for a variety of reasons were obliged to leave the institution before the full effect of a stay at Rutland could be fairly judged. Several, after short observation, were thought to be non-tuberculous, and were therefore discharged.

Number of women under treatment,	114
Number of men under treatment,	79
Average age,	27 years, 11 months.
The average length of stay was	5 months.
The average duration of disease previous to entrance (as far as it is possible to know) was	12½ months.

Table of Results.

Per Cent.	Cases treated.	Incipient.	Moderately advanced.	Advanced.	Totals.
46.63	Arrested,	58 (22)	31 (14)	1 (1)	90
11.39	Very much improved, .	4 (2)	16 (8)	2	22
30.56	Improved,	10 (7)	43 (24)	6 (3)	59
9.84	Not improved, . . .	2 (2)	15 (13)	2 (1)	19
1.55	Died,	—	3 (2)	—	3
	Totals,	74 (33)	108 (61)	11 (5)	193
	Per cent.,	38.34	55.97	5.69	—

NOTE. — The figures in parentheses denote those who had symptoms indicating an active process, *i.e.*, fever, high pulse, etc.

The table shows that, of the 193 cases, 90, or 46.63 per cent., left with the disease “arrested.” In the use of this term I have adhered to the same method which I have always employed hitherto in classifying these cases. The term is applied to cases in which cough, expectoration, bacilli and fever have disappeared, and where the general condition has been one of health. The term “cured,” or even “apparently cured,” I do not use until, after the lapse of one or two years, the patient shows no symptoms of relapse.

The greatest care has been used not to apply the term “arrested” to any case except under the conditions above mentioned, although many cases have been classed as “very much improved” when their condition would perhaps warrant a more favorable term.

Of the purely “incipient” cases referred to on the table, 58 out of the 74 were “arrested,” or 78 + per cent.

The term “incipient” is used in those cases where the physical signs are confined to very small areas, usually in one or both apices of the lungs, and where the general symptoms are slight.

The term “moderately advanced” represents the various stages from a well-marked incipient to conditions showing fairly large involvement of one or both lungs.

The term "advanced" means usually conditions of consolidation or cavity formation in the lungs.

A careful perusal of the tables will show, as heretofore, that, although the sanatorium is intended chiefly for the treatment of patients with *incipient* disease only, a large percentage of those received have symptoms of advanced disease. The results even in these cases have often been surprisingly good.

	Cases.
Bacilli of tuberculosis were found in	124
Tuberculin reaction was present in	7
There were the usual physical signs and symptoms sufficient to make the diagnosis without examination of the sputa or use of tuberculin in	62
Total,	193

Of the "arrested" cases, the longest stay was 1 year.
 Of the "arrested" cases, the average stay was 4 months, 11 days.
 Of the "arrested" cases, the shortest stay was 1 month, 4 days.
 Of all cases admitted, the average gain in weight was 15½ pounds.

Comparison of Percentages in First, Second, Third and Fourth Years.

	1898-99.	1899-1900.	1900-01.	1901-02.
Number of "arrested" cases,	30.97	39.7	42.23	46.63
Number of all classes of "improved" cases,	46.10	52.4	53.79	41.95
Number of "not improved" cases,	21.23	7.9	3.98	11.39

It will be thus seen that, although there are the inevitable fluctuations from year to year in the percentage of cases who are discharged as "improved," the number of "arrested" cases has steadily increased.

Taking this into consideration with the fact that, of the really "incipient" cases, 78 + per cent. were discharged "arrested," it gives the strongest argument in favor of the proper selection of cases, and of the importance of taking the disease *in its earliest stages, and of not waiting until the symptoms become more pronounced.*

SUBSEQUENT HISTORIES OF FORMER PATIENTS OF THE SANATORIUM.

Of the 35 cases reported as arrested in October, 1899: —

There have died,	6
Now ill,	1
Not heard from recently, but well at last writing,	2
Now practically well and at work,	26
<hr/>	
Total,	35

Forty-two of the entire number considered in the report of 1899 are known to be alive, and the majority are at work.

Of the 56 cases discharged as arrested in 1900: —

There have died,	3
Not heard from recently,	2
Practically well and at work,	51
<hr/>	
Total,	56

Ninety-four of the entire number treated (year 1899-1900) are known to be alive, and the majority are at work.

Of the 84 cases reported as “arrested” in October, 1901: —

There have died (1 of typhoid),	3
Not heard from,	1
Relapsed (2 readmitted and again in good condition),	4
In good condition of health, and almost all at work,	76
<hr/>	
Total,	84

One hundred and sixty-two of the entire number in the last report are known to be alive, and the majority are at work.

METHODS OF TREATMENT.

The methods of treatment are, chiefly: constant life in the open air; judicious exercise, varying with individual cases, in conjunction with the “rest cure;” and a properly regulated diet of nutritious food. Medicines are used as little as possible, although occasionally tonics, or some form of cod liver oil or creosote, are given. The use of alcoholic stimulants is practi-

cally prohibited, my belief being that more harm than good comes from this method of treatment. Although experiments have been tried at various times, my experience thus far has not encouraged me in the use of any one of the many so-called "specifics" for the treatment of tuberculosis. Hygienic and dietetic methods are the chief factors in whatever favorable results we have thus far obtained.

The results give ever-increasing proof of the wisdom of those who first proposed that the State should adopt measures for the treatment and cure of tuberculosis. That the money thus appropriated has been wisely expended there can be no shadow of doubt in the mind of any one who has had personal experience in such matters, or who will conscientiously and without bias study the methods employed and the results obtained.

It must be constantly kept in mind that any method which deals with the cure of tuberculosis must be, comparatively speaking, an expensive one. We are dealing, as a rule, with people who have hearty, often ravenous, appetites. To accomplish what we wish, large quantities of good, nourishing food must be supplied, otherwise failure is the result.

The ever-growing interest in the work at the sanatorium, both in America and abroad, and the constantly increasing number of those who have regained their health and are now active wage-earners again, are facts which should encourage our Legislature to aid and improve the work by every means possible.

The sanatorium should be always maintained as a first-class medical institution, for not only the treatment of tuberculosis but for the instruction of the community in the simple but essential laws of hygiene.

In concluding my report, I wish to give my special acknowledgment, as usual, to the efficient work of my assistant, Dr. Henry B. Dunham. To Dr. Marcley, Miss Thrasher and the nurses my thanks are most cordially extended, as heretofore.

I remain, gentlemen, yours respectfully,

VINCENT Y. BOWDITCH.

SEPT. 30, 1902.

To the Trustees of the Massachusetts State Sanatorium.

GENTLEMEN: — I herewith submit the fourth annual report of the results obtained in my service at our State Sanatorium.

The number of patients in my service one year ago was . . . 78
 The number of patients admitted during the year was . . . 200
 The number of patients treated during the year was . . . 275
 The number of patients discharged during the year was . . . 160
 The number of patients now in my service, Sept. 30, 1902, is . . . 118

Of the 160 discharged patients, 71 were men and 89 were women. Of these 160, 29 remained less than one month, which was manifestly too short a time to make their records of any value in a statistical report. Therefore, we have, after deducting this number, 131 discharged patients (60 men and 71 women) who are classed as *considered* cases, and the results of whose treatment are tabulated as follows. To save space, it may be said that the definitions of terms used are the same as in my former reports. Three of these patients had been admitted for the second time.

CONDITION ON ADMISSION.	Apparently cured or arrested	Improved.	Not improved.
Incipient cases (85),	56	26	3
Moderately advanced cases (40),	9	29	2
Far advanced cases (6),	1	4	1
Totals (131),	66	59	6

The following percentages are obtained from this table: —

Of the incipient cases there were: —

Apparently cured or arrested,	Per Cent.
Improved (including also greatly improved),	66 —
Not improved (including worse),	30 +
	3 +

Of the moderately advanced cases there were: —

Apparently cured or arrested,	Per Cent.
Improved (including also greatly improved),	22½
Not improved (including worse),	72½
	5

Of the far advanced cases there were:—

Arrested or apparently cured,	16 $\frac{2}{3}$
Improved,	66 $\frac{2}{3}$
Not improved (worse),	16 $\frac{2}{3}$

Of all the considered cases in my service there were:—

Apparently cured or arrested,	50 +
Improved (including much improved),	45 +
Not improved (including worse),	4 $\frac{1}{2}$

There were no deaths during the year. Patients manifestly failing or remaining stationary for a considerable time, were asked to leave, in accordance with the rules of the institution, to make room for others who might be cured or greatly improved.

The average stay of the 131 cases was	6 months.
The number who stayed more than one year was	13
Of the 131 patients the number who gained in weight was	129
The average gain in weight of these was about	15 pounds.
The largest gain in weight in one patient was	45 pounds.
Of the 131 cases, those who lost in weight numbered	2
The average loss of weight of these was	5 $\frac{1}{2}$ pounds.

During the year no alcohol and no cod liver oil have been used, and a still larger experience warrants the assertion that their use is not a necessity in the successful treatment of the disease.

As in former years, an effort has been made to ascertain the present condition of patients who have been discharged as apparently cured. The same carefully prepared circulars, containing many searching questions as to symptoms, were sent out, and most of them were returned answered. Quite a number of these “graduates,” as we call them, also wrote letters containing additional information, and some presented themselves for examination. Indirect advices established the fact that those who failed to answer did so from carelessness or negligence oftener than from physical disability. Some folks constitutionally dislike letter writing.

During the first year, from October, 1898, to October, 1899, 29 patients were discharged as apparently cured. Of these,

3 were not heard from at all, either directly or indirectly. Of the remaining 26 who were heard from, 22 might be considered as in pretty good health, and able to attend to their customary duties, — perhaps they were as well as the average members of the community; 2 had backslidden; 1 had died; and 1 was in a doubtful state of health.

Of the 59 discharged as apparently cured in the year 1899–1900, 2 were not heard from. Out of the remaining 57 who were heard from, 50 were reported in good or fair health, 3 had backslidden and 4 were in a doubtful condition.

Of the 74 discharged as apparently cured in the year 1900–1901, 4 were not heard from. Of the 70 remaining, 62 were apparently in good health, 6 had backslidden and 2 were in a doubtful condition.

This seems to be a remarkably good showing and a cause for great rejoicing, especially when it is considered that from the reports above referred to it appears that a majority of these discharged patients, since leaving the sanatorium, have been engaged in in-door occupations, contrary to our advice, which has always been to get work out of doors, if it is possible. This advice, however, they often find, especially the women, extremely hard to follow. Still, since leaving us they seem to have been remarkably faithful, most of them, in obeying instructions received at Rutland as to open windows during the night, cold sponge baths, etc., again proving what has been proved before, — the educational value of such institutions as ours.

It might seem entirely superfluous to state that these *apparently cured* or arrested cases are the only ones of whom we could reasonably expect much in the way of holding their own after leaving, although many of the improved cases do fairly well, and some even gradually reach a cure, by faithful persistence in the life they learned to live at Rutland. And yet the criticism has been heard (in only very narrow quarters, I hope) that the sanatorium life does not really cure, but simply improves for a time, the patient backsliding soon after the discharge. This misapprehension must arise from a failure to differentiate the status of patients at their discharge. Those

who are asked or allowed to leave because they are manifestly failing or are no longer improving might naturally be expected to backslide.

If it had not before been sufficiently proved, our four years of experience in the treatment of consumption at Rutland have amply demonstrated the really wonderful results of the sanatorium treatment of the disease; and it is not strange that all of the physicians connected with the institution, who have had such good opportunities for observation, are very enthusiastic in its praises. But this very success is sometimes a cause of embarrassment, especially when the fame of our sanatorium induces certain physicians throughout the State, from an exaggerated idea of its possibilities, to send as applicants for admission advanced and really hopeless cases, or those who, if not actually hopeless, would require a very long time for recovery. Fortunately, however, as a result of our remonstrances, fewer of such cases now present themselves than formerly. In rejecting these cases our advice has generally been to pursue elsewhere as nearly as possible the same methods which are employed at Rutland. If this advice is followed, such patients often improve for a time, gain flesh, and assume more or less of the external appearances of health. They are often deceived, and sometimes their physicians too, and think that a mistake has been made in their rejection. But if they will wait long enough, they will generally find that the improvement was only temporary, and failure follows. This experience has been repeated again and again in our sanatorium, when it was only partly full and there was plenty of room for the experiment, or when in the admission of some particular case a point was unduly stretched, and occasionally also when a previously good case has gone to the bad.

I cannot omit mention of the fact that everybody is pleased with the new buildings which you have erected during the past year through the generosity of the State. The large, bright and cheery dining room, where all eat at the same time; the little gem of an assembly hall, perfect in its appointments, and dedicated to both secular and religious uses; the spacious and airy two-story wards; and the imposing and useful ad-

ministration building, — are all very valuable adjuncts, and ought to tell in the success of the institution.

I again desire to express my appreciation of the valuable services of my assistant physician, Dr. George N. Lapham, who has performed his duties with great faithfulness and courtesy and with general satisfaction.

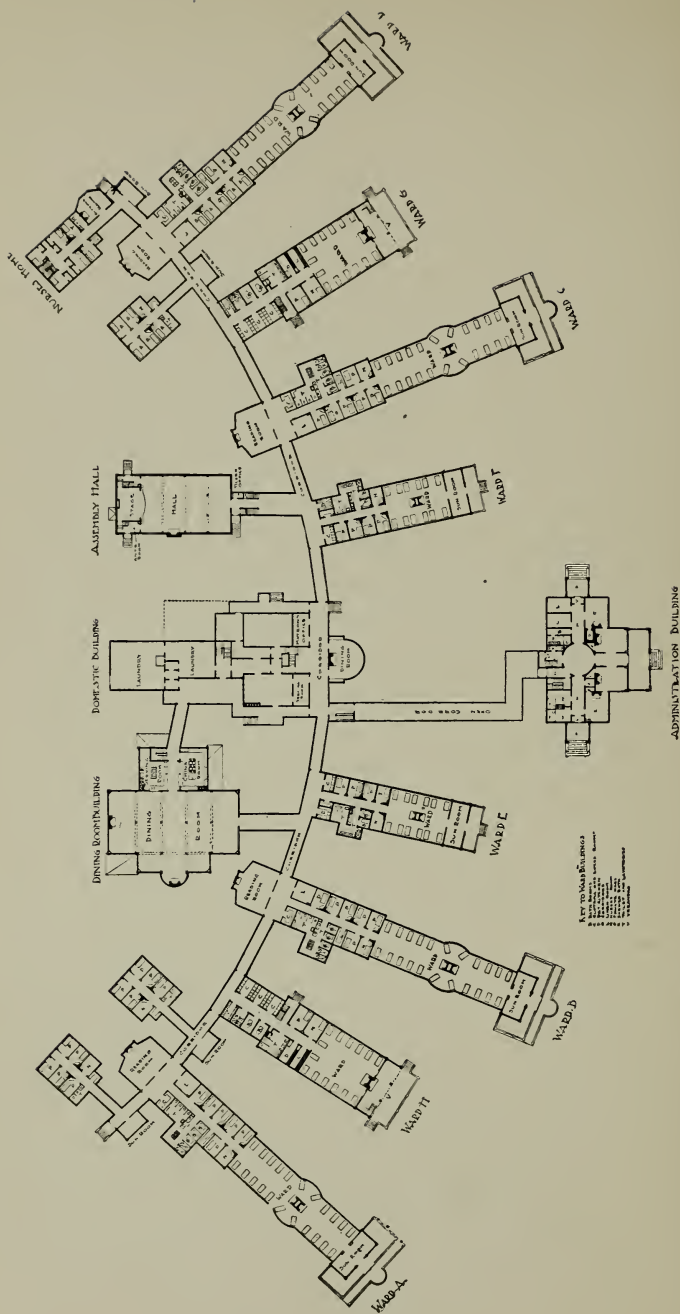
Respectfully submitted,

HERBERT C. CLAPP, M.D.

LIST OF WAGES.

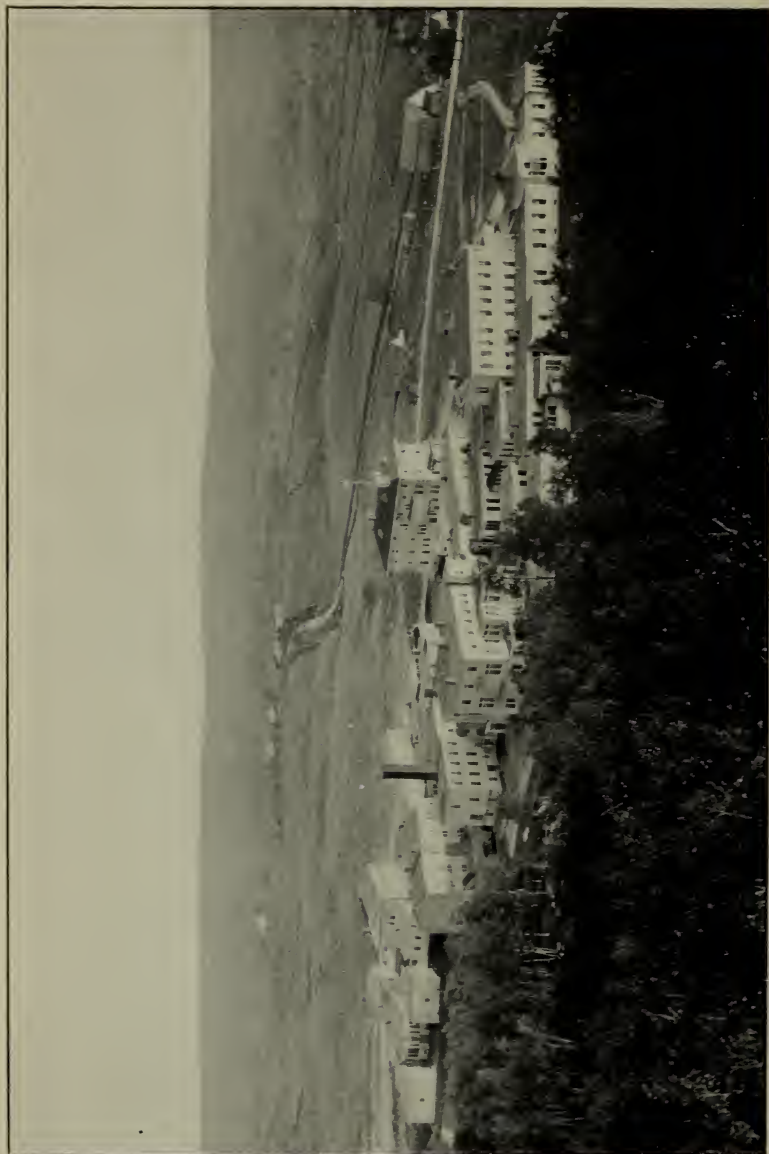
Examining and visiting physicians (per annum), each,	\$2,500 00
Superintendent and treasurer (per annum),	2,250 00
Matron and superintendent of nurses (per annum),	1,000 00
Assistant physicians (per annum), each,	600 00
Chief engineer, with meals (per annum),	1,200 00
Supervisor, without living (per annum),	800 00
Bookkeeper (per annum),	600 00
Assistant supervisor (per annum),	600 00
Assistant matron (per month),	40 00
Nurses, day (per month),	30 00
Nurses, night (per month),	35 00
Stenographer and medical clerk (per month),	35 00
Clerk (per month),	25 00
Assistant engineer, without living (per month),	65 00
Assistant engineer, without living (per month), for six months,	40 00
Cook (per month),	80 00
Assistant cook (per month),	40 00
Baker (per month),	40 00
Fireman (per month),	50 00
Fireman (per month), for nine months,	20 00
Fireman (per month), for three months,	15 00
Carpenter, without living (per month),	60 00
Head laundress (per month),	25 00
Laundry help, female (per month),	\$15 00 to 25 00
Laundry help, male (per month),	20 00 and 25 00
Ward help, female (per month),	13 00 to 15 00
Ward help, male (per month),	13 00 to 15 00
General work (per month),	15 00
Porter and messenger (per month),	25 00
Kitchen men (per month),	\$15 00 to 25 00
Coachman (per month),	25 00
Teamster (per month),	\$22 50 and 25 00
Farm help (per month),	\$5 00, 20 00 and 25 00

BLOCK of PLAN THE STATE SANATORIUM RUTLAND, MASSACHUSETTS



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VIEW OF THE SANATORIUM, FROM THE WATER TOWER NORTHWEST OF BUILDINGS.

SEVENTH ANNUAL REPORT

OF

THE TRUSTEES

OF THE

MASSACHUSETTS

STATE SANATORIUM

AT RUTLAND.

SEPTEMBER 30, 1903.



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STANDARD

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OFFICERS

OF THE

MASSACHUSETTS STATE SANATORIUM.

TRUSTEES.

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JOHN C. HAMMOND,	NORTHAMPTON.
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W. E. PARKHURST,	CLINTON.
J. P. RAND, M.D.,	MONSON.

EXAMINING AND VISITING PHYSICIANS.

VINCENT Y. BOWDITCH, M.D.,	.	.	.	.	.	.	BOSTON.
HERBERT C. CLAPP, M.D.,	.	.	.	.	.	.	BOSTON.

RESIDENT OFFICERS.

WALTER J. MARCLEY, M.D.,	.	.	.	.	.	<i>Superintendent and Treasurer.</i>
MARY E. THRASHER,	.	.	.	.	.	<i>Matron and Superintendent of Nurses.</i>
HENRY B. DUNHAM, M.D.,	.	.	.	.	.	<i>Assistant Physician.</i>
GEORGE N. LAPHAM, M.D.,	.	.	.	.	.	<i>Assistant Physician.</i>
CHARLES E. CARROLL,	.	.	.	.	.	<i>Bookkeeper.</i>
EFFIE B. RAITT,	.	.	.	.	.	<i>Dietitian and Steward.</i>
GEORGE W. DERRICK, M.D.,	.	.	.	.	.	<i>Second Assistant Physician.</i>
RALPH O. WAITT,	.	.	.	.	.	<i>Record Clerk.</i>
WILLIAM F. MOORE,	.	.	.	.	.	<i>Chief Engineer.</i>
FREDERICK H. DRURY,	.	.	.	.	.	<i>Farmer.</i>

Commonwealth of Massachusetts.

REPORT OF TRUSTEES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

The trustees of the Massachusetts State Sanatorium respectfully submit their seventh annual report.

The condition and work of the sanatorium, and whatever degree of success results from its work, are set forth in the reports of the superintendent and treasurer and in the one report made by Drs. Clapp and Bowditch who have from the first constituted the examining and visiting staff.

The trustees endorse the physicians' emphatic statement of the view that the sanatorium must be devoted solely to hopeful cases, and as far as possible to those of really incipient disease. Attention is called to the fact that the average length of time is only six months for each of 484 patients, exclusive of 92 patients who for various reasons remained less than a month. Thus the number of patients who have thoroughly taken the treatment in a year is nearly double the number that can be accommodated at one time. Also it will be noted that the examining and visiting staff are able to report that the number of cases where the disease is arrested, or apparently cured, has increased from year to year.

THE TRUSTEES DO NOT AND CANNOT INFLUENCE ADMISSION.

The Board of Trustees desire to make emphatic the fact that the examining physicians' report on the cases of applicants for admission, and the superintendent's knowledge of the capacity

of the sanatorium to receive new cases, week by week, are the only tests governing admission of applicants living within the State. Non-residents cannot be received in any case. In some quarters the impression has been prevalent that "influence" must be brought to bear on the trustees to secure admission. The impression is of course absolutely false. The trustees never interfere with the scientific methods which have been adopted, and without which the degree of success attained would have been impossible. Requests for using influence are as annoying as they are useless.

NEED OF ADDITIONAL LAND AND FARM BUILDINGS.

With the proposed increase to 400 patients the need of farm buildings and additional land is imperative. We desire to purchase the whole or a considerable part of the Bartlett farm, adjoining on the south-east, comprising about 130 acres of very valuable tillage land. It is needed because it borders on the lake, which must be kept under control. It is needed because boarding-houses for private patients are likely to be erected there, in undesirable proximity, and necessarily draining into the lake (one such is now in process of erection). It is needed because the land and a new barn will enable us to produce the greater part of our milk supply economically, and under such supervision as shall insure the best quality and greatest purity. The importance of rich and absolutely pure milk in the food supply is supreme.

BOSTON OFFICE.

In our opinion, an office in Boston for the examination of patients and graduates must be permanently maintained, even if the item of expense seems considerable. The physicians' report is referred to on this point.

ASSISTANT MEDICAL EXAMINERS.

It is contemplated to appoint an assistant medical examiner at such places as seem to need one, by reason of distance from Rutland or from the Boston office, who will for a small fee make a preliminary examination, to be submitted to the examining physicians. Probably before this report goes to the

press the names of the physicians so appointed may be appended in a footnote.*

ENLARGEMENT OF ACCOMMODATIONS.

By Statutes of 1903, chapter 445, enacted June last, provision is made for the addition of four brick cottages, two stories in height, to accommodate not more than 35 patients each.

This provision was made after a careful study of the subject by the State Board of Charity, to whom the question was referred by the previous Legislature. The trustees immediately upon the passage of this law took up the work which devolved upon them. Plans for two of the cottages have been matured under the advice of F. R. Richmond of Springfield, the architect employed therefor by the Board. The construction of these, after the plans have been approved by Your Excellency and by the Honorable Council, will be pushed with all possible promptness. Plans for the other two cottages are receiving much thought, in view of the fact that one of them may possibly be used as a probation ward, where about thirty of the newly received patients may be treated for a brief period, and the proper classification and treatment determined, if they prove to be cases suitable and desirous of remaining beyond one month. The fourth cottage it is thought may well be an infirmary, to accommodate from 20 to 30 patients during such days or such periods as they may need treatment more nearly resembling what is commonly known as hospital treatment. Probably there would be on an average a sufficient number of patients who ought to be kept in bed for a time to fill the beds of such a cottage constantly. The lower story may be devoted to men, the upper story to women, or *vice versa*.

The Board notes with great regret the resignation of Dr. F. B. Percy of Brookline, who has been a member from the first. The pressing demands on his time by his private and hospital practice and by his lectureship in the medical school of Boston

* Dr. J. F. A. Adams, 114 Wendell Avenue, Pittsfield; Dr. Everett A. Bates, 57 Chestnut Street, Springfield; Dr. A. S. MacKnight, 355 North Main Street, Fall River; and Dr. Boyden H. Pillsbury, 38 Kirby Street, Lowell, have been appointed, and will examine applicants at their offices on Wednesdays and Saturdays, from 2 to 3 P.M.

University made it impossible for the Board and the many other friends of the sanatorium to induce him to remain.

The remaining members have gladly welcomed the appointment of Dr. J. P. Rand of Monson, who has entered with hearty co-operation on this work, which demands and receives much time and thought.

The management of the superintendent, Dr. Walter J. Mareley, and the matron and superintendent of nurses, Miss Mary E. Thrasher, and the careful and skillful work of the resident assistant physicians, Dr. Henry B. Dunham, Dr. George N. Lapham and Dr. George W. Derrick, have been without exception satisfactory.

Without doubt the Board will find it necessary to employ additional resident assistant physicians when the additions are ready for patients.

Our estimates for the coming year are : —

Maintenance,	. . . . .	\$100,000 00
Additional land (130 acres),	. . . . .	10,000 00
Farm building,	. . . . .	15,000 00

ALBERT C. GETCHELL,
JOHN C. HAMMOND,
A. W. ESLEEK,
WELLINGTON E. PARKHURST,
J. P. RAND,

Trustees.

REPORT OF SUPERINTENDENT AND TREASURER.

To the Trustees of the Massachusetts State Sanatorium.

I herewith submit my report as superintendent and treasurer of the institution for the year ending Sept. 30, 1903.

Admissions and Discharges.

PATIENTS	Males.	Females.	Totals.
Number of patients in the sanatorium Oct. 1, 1902, .	124	124	248
Number admitted within the year,	291	298	589
Number discharged during the year,	278	297	575
Number of deaths,	1	—	1
Patients remaining at the sanatorium Sept. 30, 1903, .	136	125	261
Daily average number of patients,	129	119	248

Residence of Patients admitted during the Year.

COUNTIES.	Patients.	COUNTIES.	Patients.
Suffolk,	236	Bristol,	23
Middlesex,	104	Hampden,	18
Worcester,	60	Berkshire,	10
Essex,	56	Hampshire,	8
Norfolk,	45	Franklin,	4
Plymouth,	24	Barnstable,	1

Occupations.

	Males.	Females.		Males.	Females.
Actor,	-	1	Farmer,	1	-
Baker,	1	-	Fireman,	1	-
Barber,	1	-	Florist,	1	-
Bartenders,	4	-	Gardener,	1	-
Bell boy,	1	-	Hair dresser,	-	1
Bookkeepers,	7	8	Home work,	-	17
Butchers,	3	-	Hostler,	1	-
Carpenters,	3	-	Hotel proprietor,	1	-
Cigar maker,	1	-	Housewives,	-	105
Clergymen,	2	-	Ice cream maker,	1	-
Clerks,	49	18	Iron moulder,	1	-
Compositors,	1	1	Janitors,	4	-
Conductors, electric			Jeweller,	1	-
railway,	4	-	Laborers,	13	-
Cooks,	-	2	Machinists,	10	-
Custom house broker,	1	-	Manicurist,	-	1
Dentists,	2	-	Masons,	3	-
Domestics,	-	23	Marines,	2	-
Dressmakers,	-	3	Messenger,	1	-
Druggists,	2	-	Metal workers,	2	-
Egg inspector,	1	-	Milliners,	-	4
Electricians,	5	-	Motormen,	3	-
Elevator man,	1	-	None,	-	3
Engineer, civil,	1	-	Nurse maids,	-	4
Expressman,	1	-	Nurses, student and		
Factory and mill oper-			attendants,	1	4
atives,	58	42	Nurses, trained,	-	7

Occupations — Concluded.

	Males. Females.			Males. Females.	
Painters,	8	-	Stenographers,	1	6
Pattern maker,	1	-	Steward,	1	-
Physician,	-	1	Stone cutters,	7	-
Plumbers,	3	-	Storekeepers,	4	1
Peddlers,	2	-	Students,	13	14
Policeman,	1	-	Tailors,	7	4
Paper hangers,	2	-	Teachers,	-	8
Photographers,	3	-	Teamsters,	8	-
Porter,	1	-	Telegraph operator,	1	-
Potter,	1	-	Telephone operators,	-	3
Printers,	3	-	Tinsmith,	1	-
Proofreader,	-	1	Travelling salesmen,	8	-
Salespeople,	11	4	Undertaker,	1	-
Salvation Army worker,	-	1	Waiters,	1	4
Seamstresses,	-	7	Watchman (night),	1	-
Shippers,	4	-			

Civil Condition.

	Males.	Females.	Totals.
Unmarried,	176	175	351
Married,	109	113	222
Widowed,	6	10	16

It is necessary to carry on constantly the microscopic examination of sputum, urine and blood. This laboratory work has been more satisfactorily done this year than ever before, because we have been better equipped with assistants.

Attention to diet is one of the most notable elements in the treatment at the sanatorium. On this account we have secured the services of a dietitian, who also attends to many of the duties of a steward. She comes to the work with thorough training in domestic science, and with successful experience as a dietitian. Her work is proving satisfactory.

The farm, which is for many well-known reasons indispensable is also proving, in a moderate way, profitable. I hope we may be enabled during the ensuing year, by means of an appropriation for that purpose, to increase our capacity for the production of such articles of diet as are used in the sanatorium.

The weekly per capita expense is \$9.08, which is considerably lower than it has been for three years.

The contentment and well-being of the patients is greatly promoted by the very helpful religious services which are held four Sundays of every month. On two Sundays Rev. I. F. Wood, Rev. E. H. Mensel and others have conducted the Protestant services, on two alternate Sundays the Catholic services have been conducted by Rev. F. A. Lane, whom Bishop Beaven has kindly designated and appointed to that work, and to which he has attended for more than two years. All these services have been very acceptable and attended with interest and profit.

As sanatoria of this kind are being planned elsewhere, it has been a question much under discussion whether open wards, containing from fifteen to twenty-five beds, are preferable to individual sleeping rooms. After five years' experience here, I venture, with some hesitation, to put on record my settled conviction that the open wards are preferable, not only on the ground of economy of construction and administration (and this is of much moment), but also because the nurses can insure better control of temperature, ventilation and care of patients, than in a great number of individual bedrooms.

The following is the financial statement for the year:—

Cash receipts on hand Oct. 1, 1902 (as per sixth annual report),	\$3,840 39
Received from State Treasurer,	126,800 92
Received from patients for board and treatment,	37,411 32
Received from cities and towns for support of patients,	2,703 20
Received from State, soldiers' relief, and from charitable associations for support of patients,	1,934 72
<i>Amount carried forward,</i>	<i>\$172,690 55</i>

<i>Amount brought forward,</i>	\$172,690 55
Received from patients for hospital and cuspidor supplies,	1,717 65
Received from patients for freight and express,	164 02
Received from patients for telephone and telegraph,	88 91
Received from patients for stationery and office supplies,	142 02
Received from patients for sundries,	188 57
Received from sale of farm products,	1,698 05
Received from sale of grease,	1,215 52
Received from sale of other merchandise,	253 20
Received as interest on bank balance,	93 16
	<hr/>
	\$178,251 65

The expenses for the year ending Sept. 30, 1903, have been as follows : —

Salaries and wages,	\$33,755 05
Food : —	
Butter,	\$4,495 34
Beans,	37 72
Crackers,	87 26
Cereals, rice, meal, etc.,	554 89
Cheese,	122 09
Eggs,	5,190 59
Flour,	1,193 20
Fish,	1,028 04
Dried and fresh fruit,	1,674 19
Meats,	19,871 14
Milk,	6,148 85
Molasses and syrup,	47 75
Sugar,	1,186 75
Tea, coffee and cocoa,	504 04
Vegetables,	1,732 32
Sundries,	2,392 62
	<hr/>
	46,266 79
Furnishings : —	
Beds, bedding, table linen, etc.,	\$996 81
Brushes, brooms, etc.,	113 05
Crockery, glassware, cutlery, etc.,	678 39
Furniture,	370 29
Kitchen furnishings,	326 45
Wooden ware, buckets, pails, etc.,	85 30
Sundries,	30 93
	<hr/>
	2,601 22
Heat, light and power : —	
Coal,	\$16,803 87
Electrical supplies,	67 70
Oil,	197 88
Sundries,	306 63
	<hr/>
	17,376 08
<i>Amount carried forward,</i>	\$99,999 14

Amount brought forward,¹. \$99,999 14

Repairs and improvements:—

Cement, lime and plaster,	\$18 28
Electrical work and supplies,	29 70
Hardware,	220 76
Lumber,	47 46
Paints, oil, glass, etc.,	182 84
Plumbing, steam fitting and supplies,	389 44
Roofing material,	27 56
Mechanics and laborers,	97 50
Sundries,	19 41

1,032 95

Miscellaneous:—

Books, periodicals, etc.,	\$7 78
Chapel services and entertainments,	633 33
Freight, expressage and transportation,	2,203 37
Hose, etc.,	12 00
Medicines and hospital supplies,	2,309 43
Boston office,	554 35
Postage,	387 58
Printing and printing supplies,	391 20
Cuspidor supplies,	2,077 78
Soap and laundry supplies,	971 45
Stationery and office supplies,	494 34
Travelling and other expenses of officials,	1,206 58
Telephone and telegraph,	556 97
Water,	1,000 00
Sundries,	2,091 77

14,897 93

Farm, stable and grounds:—

Blacksmith and supplies,	\$202 75
Carriages, wagons, etc., and repairs,	229 25
Fertilizers, seeds, etc,	689 77
Hay, grain, etc,	3,246 33
Harness and repairs,	254 20
Horses,	200 00
Cows,	403 50
Other live stock,	12 50
Tools, farm machines, etc.,	70 30
Sundries,	155 56

5,464 16

\$121,394 18

Of which there remain unpaid bills amounting to 10,993 56

Amount carried forward, \$110,400 62

<i>Amount brought forward,</i>	\$110,400 62
Extraordinary expenses,	5,323 75
Sent to State Treasurer, cash receipts on hand Sept 30, 1902,	3,840 39
Sent to State Treasurer, cash receipts of current year,	43,415 45
Cash receipts on hand to be sent,	4,194 89
Liabilities of 1902, paid this year,	11,076 55
Total,	<u>\$178,251 65</u>

RESOURCES.

Due from patients,	\$1,906 19
Due from cities and towns for support of patients,	868 44
Due from State and from charitable associations for support of patients,	662 04
Balance to our credit, State treasury,	47,504 33
Estimated income from patients to Dec 31, 1903,	12,000 00
Cash receipts available,	4,194 89

LIABILITIES.

Unpaid bills for supplies, salaries and wages,	\$10,993 56
--	-------------

SUMMARY OF CURRENT EXPENSES FOR THE YEAR ENDING SEPT. 30, 1903.

Total expenses for the year,	\$121,394 18
Supplies, etc., sold,	3,769 89
	<u>\$117,624 19</u>

Dividing this amount by the total number of days for patients, 90,624, we have \$1.297 + as the average cost per day, or \$9.08 per week.

SPECIAL APPROPRIATIONS, 1900 AND 1901,—ENLARGEMENT AND EQUIPMENT OF BUILDINGS.

Unexpended balance, as of sixth annual report,	\$7,707 91
Expended during this year,	6,899 19
Balance available,	<u>\$808 72</u>

SPECIAL APPROPRIATION, 1902,—FOR REPAIRING ROADS.

Appropriation,	\$500 00
Nov. 6, 1902, schedule of bills,	499 97

RUTLAND, MASS., Nov. 11, 1903.

I have examined the accounts of the treasurer of the Massachusetts State Sanatorium, and have found them correct.

(Signed) C. E. WATSON,
Expert Accountant.

Thanking your Board for your continued support, I am,

Respectfully yours,

WALTER J. MARCLEY.

REPORT OF EXAMINING AND VISITING PHYSICIANS.

To the Trustees of the Massachusetts State Sanatorium, Rutland, Mass.

GENTLEMEN : — In accordance with your expressed desire to have the two medical departments present their reports together, we take pleasure in placing the following results of our year's work before you, hoping thereby to make the record of results obtained at Rutland more concise, and hence more intelligible to the public at large.

Our experience in the past year has only served to strengthen our previous convictions, — that the establishment of the sanatorium was a great step forward in the struggle against tuberculosis. We feel, too, more strongly than ever, that the institution should be devoted solely to the care of hopeful cases, and as far as possible to those of really incipient disease, — not at all to patients for whom there is no hope of recovery. Such cases need special institutions, nearer our great cities.

Whole number of patients discharged from our service,	576
Number who remained less than one month, and whose cases are therefore not considered,	92
Number taken into consideration in our report,	484

It should be stated here that those who remained less than one month were discharged for a variety of reasons. The majority of them were doubtful cases as regards prognosis, and taken on trial for three weeks only, and who showed not sufficient improvement to warrant a longer stay; others were discharged on account of discontent, or for unwillingness to obey the rules; and a number were cases of suspected tuberculosis only, who failed upon closer examination to show definite signs of disease.

Table of Results.

Per Cent.	Result.	Incipient.	Advanced.*	Totals.
48.97+	"Arrested," and "apparently cured,"	189	48	237
43.00+	"Improved" (including all shades of improvement),	67	143	210
7.90+	"Not improved" (including one death),	5	32	37
	Totals,	261	223	484

* Including all stages of well-marked disease except far advanced.

It will be noticed that the terms "apparently cured" and "arrested" are used together. This has been done through mutual concession as to which term best expresses the condition of patients who at the time of discharge show an entire cessation of active symptoms, such as cough, sputa containing bacilli, and fever, and whose bodily condition is such as to warrant a return to ordinary conditions of life, with reasonable hope of a permanent cure. Many of these cases by their general appearance and condition would seem to justify the more absolute term "cured" but it is our policy not to use this term until a reasonable length of time has elapsed after the patient's discharge.

Of the incipient cases 72.6 per cent. were "arrested" or "apparently cured." Of the 484 patients, the average length of stay was 2 days short of 6 months. Of the 484 patients, the number who gained weight was . 464
 Average gain in weight of these was 14½ pounds.
 Of the 484 patients, the number who lost weight was . . 20
 Average loss of weight of these was 5½ pounds.

Comparison of Percentages in First, Second, Third, Fourth and Fifth Years.

	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.
Per cent. of "arrested" and "apparently cured" cases, . . .	34.28+	42.35	46.12	48.31	48.97
Per cent. of all classes of "improved" cases,	39.36+	44.70	47.64	44.51+	43.00+
Per cent. of "not improved" cases,	26.04+	12.95	5.74	6.73+	7.90+

Percentage of Incipient Cases Arrested or Apparently Cured.

	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.
"Arrested" or "apparently cured,"	64.60	72.90	73.00	72.00	72.60

It will be noted in the above tables that even allowing for the inevitable fluctuations from year to year of such statistics, the number of "arrested" or "apparently cured" cases has steadily increased.

The replies from former patients to our annual letters of inquiry up to present date (Oct. 1, 1903) enable us to say that the large majority of those who were discharged from the sanatorium as "arrested" or "apparently cured" in the years preceding this are well, and are actively at work. Many of these have recently had personal examinations by the physicians.

Almost without exception we have learned that those in whom a relapse occurred had resumed former unhealthy occupations, or had returned to unhygienic homes on leaving the sanatorium, which facts alone are sufficient to account for recurrences of the disease.

With the increased accommodations for patients demanded by the Legislature, we must urge a corresponding increase in the number of our assistants, without whom it is impossible to maintain successfully the methods necessary for a well-equipped sanatorium.

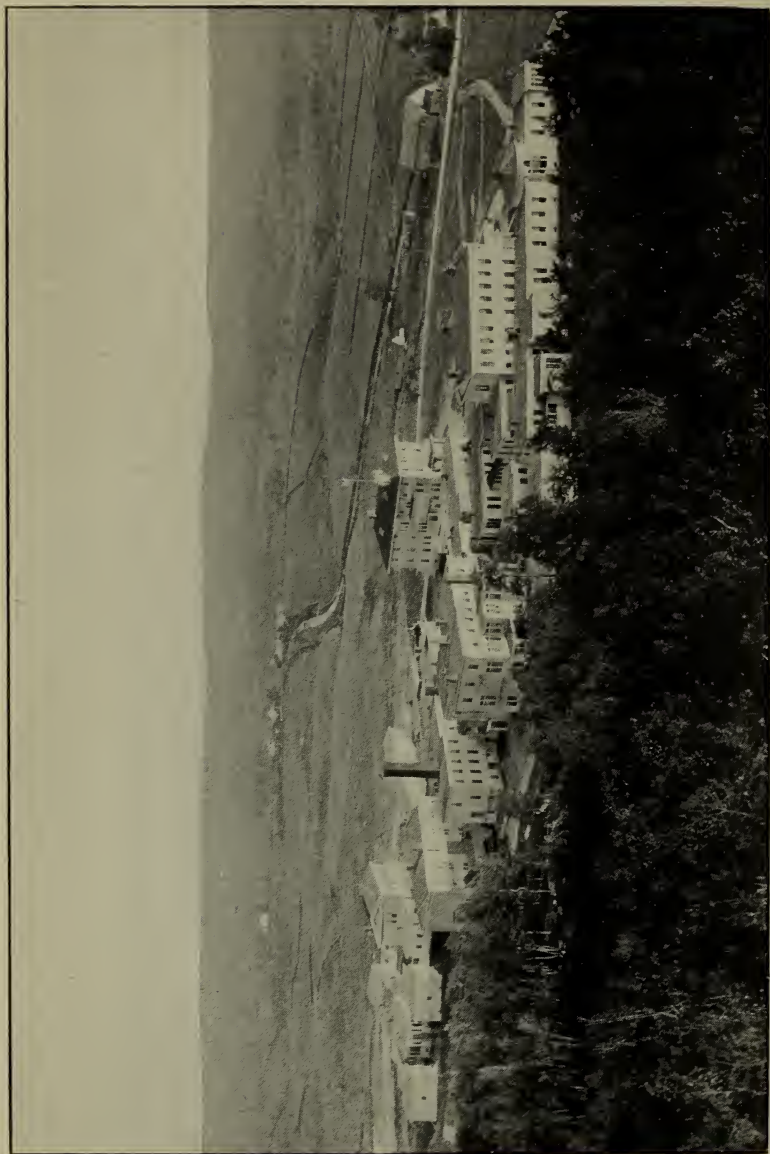
The importance of the Boston office has constantly grown. The number of applicants has greatly increased. Former patients of the sanatorium return for advice, and to report their condition. To meet these important demands we need larger quarters than we now have at 181 Tremont Street.

In conclusion, we desire to express again our keen appreciation of the valuable services of our assistants, Dr. Henry B. Dunham, Dr. George N. Lapham and Dr. George W. Derrick. To Dr. Marcley, Miss Thrasher and the nurses we also desire to express again our warm thanks for their hearty co-operation in our work.

VINCENT Y. BOWDITCH.
HERBERT C. CLAPP.

LIST OF WAGES.

Examining and visiting physicians (per annum), each,	\$1,500
Superintendent and treasurer (per annum),	2,250
Matron and superintendent of nurses (per annum),	1,000
Assistant physician (per annum),	1,000
Assistant physician (per annum),	800
Assistant physician (per annum),	500
Chief engineer (per annum),	1,100
Farmer, without living (per annum),	800
Bookkeeper (per annum),	700
Dietitian and steward (per month),	65
Nurses, day (per month),	\$25, 30 and 35
Nurses, night (per month),	30 and 40
Record clerk (per month),	35
Stenographer (per month),	30
Clerk's assistant (per month),	18
Supervisor, male (per month),	35
Supervisors, female (per month),	\$15 and 20
Engineer and fireman (per month), without living,	50 and 60
Fireman's helper (per month),	15
Cook (per month),	85
Assistant cook (per month),	45
Baker (per month),	60
Baker's assistant (per month),	15
Carpenter (per month), without living,	70
Night attendant (per month),	20
Head laundress (per month),	25
Laundry help, male (per month),	25
Laundry help, female (per month),	\$15 to 20
Ward help, male (per month),	10 and 15
General work, male and female (per month),	12 to 15
Storeroom man (per month),	25
Pharmacist (per month),	10
Kitchen help, male (per month),	\$15 to 27
Coachman (per month),	25
Teamsters (per month),	25
Farm help, without living (per month),	35
Farm help with living (per month),	\$5 to 25
Mail carrier (per month),	5



VIEW OF THE SANATORIUM, FROM THE WATER TOWER NORTHWEST OF BUILDINGS.

EIGHTH ANNUAL REPORT

OF

THE TRUSTEES

OF THE

MASSACHUSETTS

=

STATE SANATORIUM

AT RUTLAND.

SEPTEMBER 30, 1904.



BOSTON:

WRIGHT & POTTER PRINTING CO., STATE PRINTERS,
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1905.



APPROVED BY
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AT BURLINGTON

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OFFICERS

OF THE

MASSACHUSETTS STATE SANATORIUM.

JOHN C. HAMMOND,	NORTHAMPTON.
A. W. ESLEECK,	HOLYOKE.
W. E. PARKHURST,	CLINTON.
J. P. RAND, M.D.,	MONSON.
ALBERT C. GETCHELL, M.D.,	WORCESTER.

EXAMINING AND VISITING PHYSICIANS.

VINCENT Y. BOWDITCH, M.D.,	BOSTON.
HERBERT C. CLAPP M.D.,	BOSTON.

RESIDENT OFFICERS.

WALTER J. MARCLEY, M.D.,	<i>Superintendent and Treasurer.</i>
MARY E. THRASHER,	<i>Matron and Superintendent of Nurses.</i>
HENRY B. DUNHAM, M.D.,	<i>Assistant Physician.</i>
GEORGE N. LAPHAM, M.D.,	<i>Assistant Physician.</i>
CHARLES E. CARROLL,	<i>Bookkeeper.</i>
GEORGE W. DERRICK, M.D.,	<i>Second Assistant Physician.</i>
RALPH O. WAITT,	<i>Record Clerk.</i>
WILLIAM F. MOORE.	<i>Chief Engineer.</i>
FREDERICK H. DRURY,	<i>Farmer.</i>

Commonwealth of Massachusetts.

REPORT OF TRUSTEES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

The trustees of the Massachusetts State Sanatorium respectfully submit their eighth annual report.

The report of the superintendent and treasurer is endorsed by the Board. The same officers continue in the local management, and have been, without exception, satisfactory. To their skill and tact is due much of the success of the sanatorium.

As bearing upon the administration of the sanatorium and as a very important contribution to the whole question of the prevention and cure of tuberculosis, very special attention is called to the annexed report of Drs. Clapp and Bowditch, who continue to be visiting and chief examining physicians. The cordial and appreciative interest of the State Board of Charity in this part of the work for the prevention and cure of tuberculosis should have special mention.

NEW COTTAGES AND NEW HEATING PLANT.

Under the provisions of the statute of 1903, chapter 445, and under chapter 75 of the Resolves of 1904, the Board have completed two of the brick cottages, and the same are fully equipped and patients would have been received at the date of this report except that there was an unexpected delay in the completion of the contract for heating the buildings. We have also nearly completed a second dining room, by the use of which sufficient accommodations will be provided for the expected increase in number of patients. A separate building

to contain the heating plant, with the laundry in the second story, is under construction. The new boilers are being placed in position. It is expected that the same will be in readiness for use during the inclement weather of the winter and that the old heating plant will be sufficient for the needs of the institution up to that time.

PLACES OF EXAMINATION.

The office in Boston has been removed and is now at the new out-patient department of the Massachusetts General Hospital. Applicants for admission are examined there on Wednesdays and Saturdays, at 1.30 P.M.

Also at the sanatorium on any day except Sunday.

At the Worcester City Hospital on Wednesdays and Saturdays, at 9 A.M.

At Lowell by Dr. B. H. Pillsbury, 58 Kirk Street.

At Fall River by Dr. A. S. MacKnight, 355 N. Main Street.

At Springfield by Dr. E. A. Bates, 57 Chestnut Street.

At Pittsfield by Dr. J. F. A. Adams, 114 Wendell Avenue.

Time at each of the last four places, on Wednesdays and Saturdays, at 2 P.M.

No charge is made to the applicants.

The system of local examiners is working well.

FARM BUILDINGS.

The need of suitable farm buildings to replace the very old, inconvenient and insufficient buildings which were on the land when purchased grows more and more urgent. The old farm barn, the only stable for nine horses and forty cows, stands at the very front of the lawn in front of the sanatorium. It is unsightly and unsuitable. It should not be enlarged. It is absolutely necessary to increase our own milk supply. We deem it expedient to double it; this cannot be done unless a new barn is provided. No other State institution is so destitute in this respect.

There is also required a house for the farmer, with an ell having sleeping rooms for farm laborers.

The amount asked for farm buildings and farmer's house, as requested in previous reports, is \$15,000.

PURCHASE OF ADDITIONAL LAND.

Pursuant to authority given by chapter 85 of the Resolves of 1904, the sanatorium has purchased from Charles R. Bartlett about 130 acres of land for the sum of \$10,000. It is and will be more and more valuable as an addition to sanatorium grounds.

NEW ROAD.

Economy in transportation between the sanatorium and the railroad station at Muschopauge requires a much better highway than now exists. The Board have invited the Massachusetts Highway Commission to examine the matter. The commission have made surveys and submitted a plan for a new road which avoids a difficult hill. It extends from a point on the State land near the north-westerly end of Muschopauge Lake to a point on the present road to the station. The plan also contemplates improving the road from that point to the station, so that the whole shall be up to the standard of State road.

The commission report to the Board of Trustees that, it being aside from the general plan of State highways, it is not within their province to build it.

We are authorized to quote them as thinking that an appropriation of \$4,000 for such a new road would be economical on the part of the State. While the saving thereby cannot be mathematically determined, the members of the Highway Commission think, and the trustees think, that the whole expense would be saved in a short term of years by the saving in the expense of hauling coal and other freight. All transportation to and from the sanatorium is over this road.

As we understand it arrangement can be made so that the town will, if necessary, lay out the part of the proposed road which is on a new location and the State need be at no expense, or merely nominal expense, for land damages. The town of Rutland cannot fairly be called upon to build this road. The benefit will be almost wholly to the State Sanatorium. For this purpose the trustees ask an appropriation of \$4,000.

THE IMMEDIATE LOCALITY BENEFITED NOT INJURED BY THE
SANATORIUM.

The question is often asked, How does the presence of the sanatorium affect the town of Rutland, in which it is located? The information obtained by inquiry of town authorities may be valuable.

The report tends to show that the town has benefited largely, and has not suffered at all in health. The assessors' books show that the entire 365 acres now belonging to the sanatorium was taxed on a valuation of \$14,000. Since the sanatorium opened in October, 1898, new houses and improvements, with a tax valuation of \$30,000, have been built. The demand for them is attributed directly to the sanatorium. The gain from this source in valuation is \$16,000. Farms, small homesteads and village houses have increased in value; they are now at all times in demand. There is also an unprecedented demand for skilled and unskilled labor. On the assessors' books the total valuation of the town in the current year is \$704,183; in 1895, before the sanatorium acquired any land, it was \$518,180, — a gain of \$186,000.

Because the sanatorium must have a water supply and would be a customer, the town was enabled to put in a public water system. About one-half the rental comes from the sanatorium, enabling the system to be self-supporting; but for this aid a public water supply to Rutland would have been impossible.

The number of inhabitants has increased. The exact figures to date are not at hand. In 1895 it was 978 and had not exceeded 1,060 in twenty years; in 1900 it was 1,334; in 1904 it is estimated at 1,500. The number of taxable polls was in 1895 268; in 1904 it was 333, an increase of 65 polls.

The public health has not suffered. The number of deaths in the town from tuberculosis (exclusive of those who came to the town to be treated for the disease) for the whole time since patients were first received, viz., 1899 to 1904 inclusive, six years, was 8; for the period of six years immediately preceding (1893 to 1898 inclusive), 11; for the period of six years 1887 to 1892 inclusive, 11; for the period of six years 1881 to 1886 inclusive, 14. The town has thus averaged for the

last twenty-four years two deaths per year from tuberculosis in a population averaging about 1,000. During the last six years, with increased population, the deaths from this cause have been less than before.

Needs for the Next Year.

Maintenance, allowing for the increased number of patients, .	\$105,000 00
Farm buildings,	15,000 00
New road,	4,000 00

JOHN C. HAMMOND,
A. W. ESLEECK,
WELLINGTON E. PARKHURST,
J. P. RAND,
ALBERT C. GETCHELL,

Trustees.

REPORT OF SUPERINTENDENT AND TREASURER.

To the Trustees of the Massachusetts State Sanatorium.

I have the honor to present herewith my report for the year ending Sept. 30, 1904.

During this year 1,754 applicants have been examined, of whom 817, or 46 per cent., were considered favorable for admission; 639, or 36 per cent., unfavorable, and 298, or 17 per cent., doubtful. A certain number of these doubtful cases, after subsequent examinations, were favorably considered and admitted. It has seemed wise to keep all beds full, if possible, although to accomplish this it has been necessary to admit certain cases who were advanced in the disease, and whose prospects of recovery were not good. The report of the visiting physicians and the figures given above show a deplorable percentage of unfavorable applicants and of cases admitted. It is to be most earnestly hoped that with a wider spread knowledge concerning the requirements of admission to the sanatorium, a much larger percentage of really incipient cases will be sent to our examiners, and thus the benefit of sanatorium treatment will be given to a greater number of individuals at a time when there is more hope of permanent recovery. Many applicants are sent by former patients, which shows one phase of the educational value of the institution. From time to time old patients apply for readmission, but unless there is a vacancy for which no new application is filed I have not deemed it wise to consider favorably a readmission.

It has been necessary to discharge 16 patients during the year for violation of rules. The most serious offence is the drinking of liquor. Very little alcoholic liquor is prescribed in the treatment of the disease. Generally speaking it is considered harmful to consumptives. Moreover, liquor drinking is prejudicial to the *morale* of the institution, and on this ground also cannot be allowed. For the good of the patient

and of the institution it is of the utmost importance that the rule against the drinking of liquor be rigidly enforced.

Admissions and Discharges.

PATIENTS.	Males.	Females.	Totals.
Number of patients in the sanatorium Oct. 1, 1903, .	136	125	261
Number admitted within the year,	342	345	687
Number discharged during the year,	341	351	692
Number of deaths,	2	2	4
Patients remaining in the sanatorium Sept. 30, 1904, .	135	117	252
Daily average number of patients,	137	120	257

Residence of Patients admitted.

COUNTIES.	Patients.	COUNTIES.	Patients.
Suffolk,	278	Plymouth,	20
Middlesex,	130	Hampshire,	15
Essex,	59	Berkshire,	13
Worcester,	53	Barnstable,	2
Bristol,	41	Franklin,	1
Hampden,	41	Dukes,	1
Norfolk,	33		

Civil Condition.

	Males.	Females.	Totals.
Unmarried,	199	194	393
Married,	135	135	270
Widowed,	6	14	20
Divorced,	2	2	4

Occupations.

	Males.	Females.		Males.	Females.
Accountant, . . .	1	-	Elevator men, . . .	2	-
Actor,	1	-	Engineers, marine, .	2	-
Advertising agent, .	1	-	Engraver,	1	-
Attendants,	2	-	Expressmen,	2	-
Baggageman, . . .	1	-	Factory and mill oper-		
Barber,	1	-	atives,	86	51
Bartenders, . . .	4	-	Farmers,	3	-
Blacksmiths, . . .	6	-	Firemen,	3	-
Bookkeepers, . . .	7	3	Gardener,	1	-
Butchers,	3	-	Home work,	-	42
Buyers,	2	-	Hostler,	2	-
Brakemen,	2	-	Housewives,	-	115
Carpenters,	4	-	Hackman,	1	-
Cigar maker, . . .	1	-	Inspector,	1	-
Clerks,	31	7	Insurance,	1	-
Coachman,	1	-	Janitors,	3	1
Collector,	1	-	Jeweller,	1	-
Conductors, electric			Laborers,	6	-
railway,	5	-	Lamp lighter,	1	-
Contractors, . . .	2	-	Laundresses,	-	4
Cook,	1	-	Letter carriers, . . .	3	-
Dentist,	1	-	Longshoreman, . . .	1	-
Domestics,	1	24	Machinists,	13	-
Draughtsman, . . .	1	-	Manicurist,	-	1
Dressmakers, . . .	-	11	Mason,	1	-
Electricians, . . .	2	-	Masseuse,	-	1

Occupations — Concluded.

	Males.	Females.		Males.	Females.
Marine,	1	-	Piano tuner, . . .	1	-
Messenger, . . .	1	-	Real estate agent, .	1	-
Metal worker, . . .	1	-	Roofer,	1	-
Milliners,	-	3	Salespeople, . . .	7	5
Motormen,	4	-	Seamstresses, . . .	-	2
Musician,	1	-	Shipper,	1	-
None,	-	4	Steam fitters, . . .	2	-
Nursemaids, . . .	-	5	Stenographers, . . .	3	12
Nurses, student, . .	-	2	Silversmith, . . .	1	-
Nurses, trained, . .	-	2	Soldier,	1	-
Newsboy,	1	-	Storekeepers, . . .	6	-
Newspaper reporters, .	3	-	Stone cutters, . . .	2	-
Painters,	5	-	Students,	18	22
Plumbers,	4	-	Tailors,	16	-
Peddlers,	5	-	Teachers,	1	7
Paper hangers, . . .	2	-	Teamsters,	16	-
Photographer, . . .	1	-	Telegraph operators, .	2	3
Porters,	2	-	Telephone operators, .	-	4
Printers,	8	-	Travelling salesmen, .	4	-
Professional singer, .	-	1	Waiters,	3	13
Pugilist,	1	-			

Since the opening of the sanatorium six years ago, 2,843 patients have been treated.

Our daily menu is important. I give below the dietary for the week just ended :—

Friday, September 23.

Breakfast. — Fruit, oatmeal with milk, creamed codfish, baked potatoes, corn muffins, bread and butter, cereal coffee, milk *ad lib.*

Dinner. — Soup, baked bluefish, cold meat, potatoes and one other vegetable, bread and butter, baked custard.

Supper. — Hominy with milk, baked beans and brown bread, bread and butter, chocolate layer cake, milk *ad lib.*

Saturday, September 24.

Breakfast. — Wheat flakes with milk, steak, potatoes, wheat muffins, bread and butter, cereal coffee, milk *ad lib.*

Dinner. — Soup, roast lamb, potatoes and one other vegetable, bread and butter, Indian pudding.

Supper. — Rice with milk, creamed ham, baked potatoes, waffles, bread and butter, milk *ad lib.*

Sunday, September 25.

Breakfast. — Farina with milk, chops, potatoes, bread and butter, graham muffins, cereal coffee, milk *ad lib.*

Dinner. — Soup, chicken pie, potatoes and one other vegetable, celery, bread and butter, tapioca cream.

Supper. — Cracked wheat with milk, oyster stew, crackers, bread and butter, jumbles, milk *ad lib.*

Monday, September 26.

Breakfast. — Hominy with milk, eggs and bacon, potatoes, corn bread, bread and butter, baked apples, cereal coffee, milk *ad lib.*

Dinner. — Soup, roast beef, potatoes and one other vegetable, bread and butter, banana jelly.

Supper. — Wheat flakes with milk, cold meat, creamed potatoes, bread and butter, fruit sauce, milk *ad lib.*

Tuesday, September 27.

Breakfast. — Cracked wheat with milk, steak, potatoes, bread and butter, wheat muffins, cereal coffee, milk *ad lib.*

Dinner. — Soup, roast lamb with mint sauce, potatoes and one other vegetable, bread and butter, fresh fruit.

Supper. — Corn meal with milk, meat hash, bread and butter, rolls, baked apples, milk *ad lib.*

Wednesday, September 28.

Breakfast. — Farina with milk, eggs and bacon, potatoes, bread and butter, corn muffins, cereal coffee, fresh fruit, milk *ad lib.*

Dinner. — Soup, roast beef, potatoes and one other vegetable, bread and butter, Spanish cream.

Supper. — Hominy with milk, cold meat, Lyonnaise potatoes, bread and butter, fruit sauce, milk *ad lib.*

Thursday, September 29.

Breakfast. — Wheat flakes with milk, chops, potatoes, bread and butter, graham muffins, cereal coffee, milk *ad lib.*

Dinner. — Soup, steak, baked sweet potatoes, one other vegetable, bread and butter, apple tapioca pudding.

Supper. — Cracked wheat with milk, egg salad, bread and butter, baking-powder biscuit with maple syrup, milk *ad lib.*

In addition to the above regular meals, lunches of raw eggs and milk are served at 10.30 A.M. and at 3 and 8.30 P.M. By special order of the physician, extra chops, steak or eggs are served at the regular meal. For a certain number of patients the dietitian plans a regular light-house diet.

The expense for the past year for food materials per day per patient has been 57 cents. The daily ration for all inmates, patients and employees, has averaged 41 cents.

Our weather bureau, established in 1902, is in constant touch with the official meteorologists in Boston, to whom we are indebted for valuable suggestions and assistance. The appended report of 1903 is endorsed by them.

Weather Record for 1903.

MONTH.	Mean Maximum.	Mean Minimum.	Mean.	Total Inches Precipitation	Mean Barometer.	Total Wind Movement.	Mean Humidity.	NUMBER OF DAYS.		
								Clear.	Partly Cloudy.	Cloudy.
January, . .	38.06	15.23	26.65	2.60	29.840	9,581	82.44	9	9	13
February, . .	-	18.32	-	3.71	-	9,248	80.48	14	4	10
March, . .	-	31.00	-	8.31	-	8,814	84.06	7	10	14
April, . .	55.90	34.43	45.00	3.32	29.863	8,923	65.91	8	13	9
May, . .	69.26	46.68	59.97	1.35	30.098	6,774	60.30	13	12	6
June, . .	66.17	50.13	58.15	8.73	29.938	6,776	81.75	3	8	19
July, . .	76.84	57.81	67.32	3.36	29.846	6,829	74.80	5	18	8
August, . .	68.90	53.39	59.11	4.06	29.910	6,147	79.40	3	17	11
September, . .	72.39	52.56	62.72	2.87	30.315	4,970	74.91	12	14	4
October, . .	65.29	40.97	53.08	3.98	29.953	8,126	79.48	11	8	12
November, . .	49.57	26.03	37.86	2.77	29.932	7,058	62.08	16	6	8
December, . .	32.12	13.40	22.86	2.05	29.953	7,028	81.63	14	5	12

The additional farm land purchased this year brings our total acreage up to 365, and provides much-needed fields for

tillage and pasturage. About 15 acres of the new land were put under cultivation this past summer and yielded well in vegetables.

The farm account is as follows :—

DR.	
Blacksmith,	\$130 15
Board of men, at \$15 per month,	1,365 00
Fertilizers and seeds,	845 21
Grain and feed for stock,	3,640 36
Harness,	23 19
Labor not on pay roll,	443 04
Live stock :—	
Cows,	925 00
Horse,	200 00
Miscellaneous supplies and repairs,	189 94
Pay roll,	3,665 47
Tools,	156 66
Veterinary surgeon,	74 60
Wagons, etc.,	67 30
Waste from sanatorium kitchen,	200 00
	<hr/>
	\$11,925 92
CR.	
Board of driving horses, at \$15 per month,	\$810 00
Grease sold,	222 54
Labor for sanatorium,—putting in ice, hauling provisions from station, etc.,	887 03
Live stock sold :—	
Cows,	131 00
Hogs,	949 75
Horse,	90 00
Milk, 120,078 quarts, at 4½ cents,	5,103 31
Vegetables supplied,	628 54
Hay and feed on hand as estimated Oct. 1, 1904,	1,188 00
30 acres of newly purchased land ploughed, cleared of stones and seeded (no return the present year), at \$15 per acre,	450 00
It is estimated that one-half the farmer's time is devoted to general care of outside matters, such as transportation of coal and other freight, the ice supply, care of filter beds, etc.; the farm is therefore credited one-half his salary,	400 00
It is estimated that there should be credited the farm one-half the fertilizer used on the land this year, partly barn manure, partly commercial fertilizers, which remain as benefit for future years,	400 00
The live stock on the farm (cows and hogs) by cash expenditures have been increased in value as per inventories of 1903 and 1904,	534 00
Deficit,	131 75
	<hr/>
	\$11,925 92

All the fields which have been under cultivation receive each year much care in the removal of stones and general improvement, thus enhancing the value of tillage land, increasing its productive capacity, and greatly improving the appearance of the institutional property. For this no credit in dollars and cents has been given the farm in the foregoing account.

PRODUCTS OF THE FARM.

Delivered to the Sanatorium during the Year.

Apples, 30 barrels, at \$1,	\$30 00
Apples, 7 barrels, at \$1.75,	12 25
Beans, shell, 21½ bushels, at \$0.90,	19 35
Beans, string, 5 bushels, at \$0.75,	3 75
Beans, wax, 9 bushels, at \$0.80,	7 20
Beets, 8 bushels, at \$0.50,	4 00
Beet greens, 8 barrels, at \$1.20,	9 60
Carrots, 5 bushels, at \$0.65,	3 25
Cabbage, 19 barrels, at \$1,	19 00
Corn, sweet, 440 dozen, at \$0.15,	66 00
Cucumbers, 17,454, at \$0.00½,	87 27
Lettuce, 92 dozen, at \$0.50,	46 00
Pears, 3 bushels, at \$1.25,	3 75
Peas, 28 bushels, at \$1,	28 00
Potatoes, 307½ bushels, at \$0.80,	246 00
Radishes, 20 bushels, at \$0.30,	6 00
Rhubarb, 743 pounds, at \$0.01½,	9 29
Summer squash, 6½ barrels, at \$0.75,	4 88
Swiss chard, 11 barrels, at \$0.75,	8 25
Tomatoes, 6 bushels, at \$1.75,	10 50
Turnips, 7 bushels, at \$0.60,	4 20
Total,	<hr/> \$628 54

On Hand Oct 1, 1904.

Carrots and beets,	\$75 00
Clover, 2 tons, at \$10,	20 00
Corn fodder, 9 acres, at \$20,	180 00
Hay, 4 tons, at \$9,	36 00
Hay, 20 tons, at \$14,	280 00
Hay, 20 tons, at \$15,	300 00
Hungarian, 2 tons, at \$10,	20 00
Mangel-wurzel, ½ acre,	75 00
Millet,	6 00
Oats, fodder, 2 tons, at \$8,	16 00
Oats, fodder, 3 tons, at \$10,	30 00
Rye, 50 bushels, at \$1,	50 00
Rye straw, 5 tons, at \$20,	100 00
Total,	<hr/> \$1,188 00

The financial statement for the year is as follows :—

Cash receipts on hand Oct. 1, 1903, as per seventh annual report,	\$4,194 89
Received from State Treasurer,	207,736 09
Received from patients for board and treatment,	41,774 65
Received from cities and towns for support of patients,	1,913 45
Received from State, soldiers' relief, and from charitable associations for support of patients,	2,064 35
Received from patients for hospital and cuspidor supplies,	2,352 74
Received from patients for freight and express,	156 92
Received from patients for telephone and telegraph,	114 69
Received from patients for stationery and office supplies,	282 04
Received from patients for sundries,	446 65
Received from sale of farm products,	1,973 98
Received from sale of grease,	843 94
Received from sale of other merchandise,	431 06
Received as interest on bank balance,	78 40
	<hr/>
	\$264,363 86

EXPENSES.

Salaries and wages,	\$34,687 19
Food :—	
Beans,	\$55 37
Bread and crackers,	104 05
Butter and butterine,	3,080 65
Cereals, rice, meal, etc.,	452 23
Cheese,	97 38
Eggs,	6,062 94
Fish,	699 48
Flour,	484 02
Fruit,	1,191 94
Meats,	21,752 02
Milk,	3,685 19
Molasses,	39 95
Sugar,	1,129 99
Sundries,	2,499 79
Tea, coffee, broma and cocoa,	525 12
Vegetables,	2,195 15
	<hr/>
	44,055 27
Furnishings :—	
Beds, bedding, table linen, etc.,	\$1,384 87
Brushes, brooms, etc.,	136 94
Carpets, rugs, etc.,	30 03
Crockery, glassware, cutlery, etc.,	801 22
Furniture and upholstery,	581 37
	<hr/>
Amounts carried forward,	\$2,934 43
	<hr/>
	\$78,742 46

<i>Amounts brought forward,</i>	\$2,934 43	\$78,742 46
Kitchen furnishings,	539 35	
Sundries,	134 70	
Woodenware, buckets, pails, etc.,	70 28	
	<hr/>	3,678 76
Heat, light and power:—		
Coal,	\$6,774 29	
Electricity,	112 80	
Oil,	166 92	
Sundries,	208 91	
Wood,	114 00	
	<hr/>	7,376 92
Repairs and improvements:—		
Cement, lime and plaster,	\$51 59	
Doors, sashes, etc.,	3 50	
Electrical work and supplies,	46 89	
Hardware, iron, steel, etc.,	282 08	
Lumber,	333 15	
Mechanics and laborers (not on pay roll),	55 30	
Paints, oils, glass, etc.,	202 43	
Plumbing, steam fitting and supplies,	319 53	
Roofing and materials,	21 69	
Sundries,	25 17	
	<hr/>	1,341 33
Farm, stable and grounds:—		
Blacksmith and blacksmith's supplies,	\$165 10	
Carriages, wagons and repairs,	43 55	
Fertilizers, vines, seeds, etc.,	937 51	
Harness and repairs,	52 58	
Hay, grain, etc.,	3,698 08	
Labor (not on pay roll),	373 49	
Live stock:—		
Cows,	805 00	
Horses,	400 00	
Sundries,	209 60	
Tools, farm machines, etc.,	94 94	
	<hr/>	6,779 85
Miscellaneous:—		
Books, periodicals, etc.,	\$30 50	
Chapel services and entertainments,	220 50	
Freight, expressage and transportation,	2,836 70	
Hose, etc.,	11 00	
Boston office,	202 25	
Medical attendance, nurses, etc. (extra),	18 00	
Medicines and hospital supplies,	2,478 40	
Postage,	540 88	
Printing and printing supplies,	276 85	
Cuspidor supplies,	2,658 91	
	<hr/>	
<i>Amounts carried forward,</i>	\$9,273 99	\$97,919 32

<i>Amounts brought forward,</i>	\$9,273 99	\$97,919 32
Soap and laundry supplies,	999 81	
Stationery and office supplies,	663 01	
Sundries,	2,480 26	
Telephone and telegraph,	592 90	
Travel and expenses (officials),	1,398 99	
Water,	833 33	
		16,242 29
Additional land, Resolves 1904, chapter 85,		10,000 00
Extraordinary expense,		4,914 17
Extraordinary expense, special appropriations,		67,666 75
Sent to State Treasurer, cash receipts on hand Sept. 30, 1903,		4,194 89
Sent to State Treasurer, cash receipts of current year,		43,545 07
Cash receipts on hand to be sent,		8,887 81
Liabilities of 1903, paid this year,		10,993 56
Total,		\$264,363 86

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$8,887 81	
Bills receivable,	4,466 90	
Unexpended appropriation for expenses,	45,059 77	
Total resources applicable to ordinary expenses,		\$58,414 48

Liabilities.

Salaries unpaid,	\$3,269 21	
Miscellaneous bills (current expenses),	13,781 60	
		\$17,050 81
Extraordinary expense,		479 91
Total liabilities,		17,530 72
Balance for the institution,		\$40,883 76

SUMMARY OF CURRENT EXPENSES FOR THE YEAR ENDING SEPT. 30, 1904.

Total expenditures for the year,	\$114,161 61
Unpaid bills,	17,050 81
	\$131,212 42
Deducting amount of sale of supplies to patients,	4,628 05
	\$126,584 37
Deducting further the increase of supplies on hand Oct. 1, 1904,	1,459 47
Total current expenses,	\$125,124 90

Dividing this amount by the daily average number of patients, 257, gives an average annual cost of \$486.86, equivalent to an average weekly cost of \$9.36. Deducting from the total current expenses, \$125,124.90, the cash receipts from patients, \$45,752.45, gives \$79,372.45, the total current expense to the Commonwealth, which is equivalent to an average weekly cost of \$5.93.

The crematory provided for in 1903 has not yet been built. It seemed best to delay its construction until definite plans were made for the new heating plant. We have, therefore, at present under construction a most admirable brick building for the cremation of paper cuspidores and other infected material. This building is to be connected directly with the chimney of the boiler house, but entirely apart from that building. It is to be equipped with a brick furnace, will have its walls painted in oils, a cement floor, a connection with sewer, and will be well lighted on three sides.

We have completed this year six fire stops. These are built midway in the connecting corridors, extending through the walls and roofs of the corridors, are of brick with tinned doors, and are eminently satisfactory.

This year 58 patients have been supported in the sanatorium by cities and towns, by the Associated Charities of Boston and other cities, the Invalid Aid Society, and other charitable organizations. The Boston Association for the Relief and Control of Tuberculosis has rendered valuable assistance in tracing discharged patients and in many ways helping them to continue the sanatorium treatment in their homes. To these friends, and to all others who have assisted us in the work, we express our grateful acknowledgments.

In conclusion, I beg here to express my appreciation of the faithful services of the resident officers of the institution, the nurses, attendants and all other employees, many of whom were formerly patients.

Respectfully submitted,

WALTER J. MARCLEY.

REPORT OF THE EXAMINING AND VISITING PHYSICIANS.

To the Trustees of the Massachusetts State Sanatorium, Rutland, Mass.

GENTLEMEN:— We append herewith the combined results in our separate departments for the year ending Sept. 30, 1904.

Whole number of patients discharged during the year,	696
Number who remained only about one month, and whose cases are, therefore, not considered,	120
Number taken into consideration in our report,	576

Of the 120 cases which are not considered, the majority were patients with symptoms favorable for treatment, but who left for various reasons at or before the end of the month; sometimes because of urgent calls at home; often for unwillingness to conform to rules; at times for insubordination. A small minority were discharged because of increased evidence of rapidly advancing disease, which made a change imperative.

Table of Results.

Per Cent.	Result.	Incipient.	Moderately advanced.	Advanced.	Totals.
44.8	"Arrested," and "apparently cured," .	198	48	12	258
47.7	"Improved" (including all shades of improvement),	53	104	118	275
7.4	"Not improved" (including four deaths),	10	15	18	43
	Totals,	261	167	148	* 576

* Twenty of these only could be said to be somewhat doubtful cases of tuberculosis. The remainder were positively tubercular.

Of the incipient cases, 75.8 per cent. were "arrested" or "apparently cured."

Of the 576 patients, the average length of stay was 5½ months

Of the 576 patients, the number who gained weight was 544

Average gain in weight of these was 13½ pounds.

Of the 576 patients, the number who lost weight was 30

Average loss of weight of these was 4½ pounds.

Comparison of Percentages in First, Second, Third, Fourth, Fifth and Sixth Years.

	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.
Percent. of "arrested" and "apparently cured" cases,	34.25+	42.35	46.12	48.31	48.97	44.8
Per cent. of all classes of "improved" cases,	39.36+	44.70	47.64	44.51+	43.00+	47.7
Per cent. of "not improved" cases,	26.04+	12.95	5.74	6.73+	7.90+	7.4

Percentage of Incipient Cases arrested or apparently cured.

	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.
"Arrested" or "apparently cured,"	64.60	72.90	73.00	72.00	72.60	75.8

In comparing the results obtained this year with those of former years, we may notice the significant fact that the percentage of *incipient* cases which have been discharged as "arrested" or "apparently cured" has steadily increased, a proof of the importance of sending cases early in the history of disease, instead of waiting until the symptoms become more marked.

It will be noticed that the percentage of "arrested" or "apparently cured" of the total number of cases is somewhat less this year than last, which, at first sight, would seem to be discouraging. When we study the facts, however, we find reason to be encouraged. The acts of the Legislature have twice increased the capacity of the sanatorium. In 1899 the capacity was 175 beds. The past year it has been 260. The new brick buildings provided for will bring the capacity up to nearly 400 beds. In order to fill the 260 beds available during the past year, a larger proportion of advanced cases has been admitted than before. The average length of stay, moreover, has for several reasons been lessened during the past year, with a consequent increase in the number of patients ad-

mitted. Both of these facts naturally tend to diminish the relative number of cases discharged as "arrested" or "apparently cured," although the actual number of such cases is larger than before (258). Taking these facts into consideration, therefore, we feel that there is every reason for encouragement, and that by properly meeting new conditions we can increase the amount of good done to the community by the sanatorium.

The recent act of the Legislature providing for additional brick buildings will increase the total number to nearly 400, as before stated. The work of the medical department is naturally made much more difficult. An increase in the number of intelligent assistants, therefore, is an absolute necessity, and a *sine qua non* of success.

The difficulty and great importance of the work ahead of us leads us to emphasize certain points which should be known not only to the laity but to our own profession.

During the past few years an astonishing change has come over the community in regard to the question of tuberculosis. Marked apathy has changed to extraordinary zeal, and, as is often the case, those who have been among the first to advocate certain measures which they know to be of great use, find themselves not infrequently obliged to take a rather conservative position, lest the often extravagant claims made by recent converts shall result only in a reaction of sentiment in the community, and a consequent unreasonable prejudice against methods of treatment which, beyond a shadow of a doubt in the minds of those who are best able to judge, are of infinite value to thousands of sufferers when rationally used.

This reaction is, to a certain extent, now showing itself in regard to the work at Rutland, and is largely due to the often extravagant claims made by recent converts to the "open-air treatment," who have only superficially studied the subject.

While warmly acknowledging what we owe to the press, and while not wishing to underrate its value in promulgating the ideas which are essential for the proper use of these methods, yet we feel compelled to say that the flaring and exaggerated statements which often appear in our daily papers of what has been accomplished at such institutions as Rutland

have often been such as to make “the judicious grieve.” Such exaggerations of true facts only serve to weaken the cause in the end, for the misguided individuals who rush for aid in the hope of healing a far-advanced process only meet with disappointment in the majority of cases. In their bitterness, they and often their friends denounce the whole system as a fraud, simply because they have been misled by the false statements of those who are not in authority, and in spite of the vain explanations of those in charge of the institutions.

Our own profession is often to blame in this particular, we regret to say. Greater caution than now should be used in speaking of a “cure,” before a number of months have passed, during which time the patient has remained well under ordinary conditions of life, after he has left a sanatorium. The often careless method of speaking of cases as “cured” when, after a stay of a few weeks, possibly months, the patients have the appearance of health only, is, on the face of it, with our knowledge of the disease, absurd, and is apt to bring discredit upon those who do their utmost to correct these false impressions. In this report it will be noticed that the terms “arrested” and “apparently cured” are used together. They simply represent our different expressions for what is virtually the same idea, viz., an outward appearance of health, with an apparent cessation of abnormal symptoms, which may or may not be permanent, and to prove which the test of time must be applied. In spite of these conservative terms statements to the effect that patients are discharged “cured” are continually put into our mouths by ex-patients and their friends, to the detriment, naturally, of the methods used when relapses have occurred.

In regard to the class of cases which are admitted to the sanatorium there exists a very mistaken idea, even among the profession. As our circulars announcing the wish of the trustees state that only incipient cases, or at least those susceptible of improvement, should be admitted, it is a very common idea that most of our cases have really few, if any, symptoms of active disease. This is the exact reverse of the truth, the fact being that really incipient cases form but a small percentage of those treated, the majority having well-marked symptoms,

many having advanced signs of disease in the chest. This being the fact, then, it speaks all the better for sanatorium treatment that we are able to accomplish as much as our statistics show.

When we state, as we are able to in recent years, that between 45 and 50 per cent. of all cases have left with the disease arrested, we are massing all our cases together. When we show that among the cases which seem to be really incipient between 70 and 80 per cent. leave with the disease arrested, it is only a proof of what we are constantly endeavoring to teach, viz., not to wait until the symptoms are well marked, but to send the patients at once, when the first symptoms appear. Until the profession learns this we are wasting valuable time; in spite of repeated requests to the contrary, however, patients far beyond the incipient stage of tuberculosis, and for whom there is little or no hope of anything other than possibly a temporary amelioration of symptoms, are often recommended by physicians.

Frequent and gratifying reports are received from the majority of patients who have regained their health at Rutland, most of them being active wage-earners and enthusiastic advocates of methods which they know to have been beneficial to them.

It is our constant endeavor to induce patients to seek employment which shall give them as much out-door life as possible. To help in this most important feature of the after-treatment of those who leave the sanatorium, the establishment of some bureau whose business shall be to find suitable places for ex-patients is most desirable, and would greatly aid us in our work.

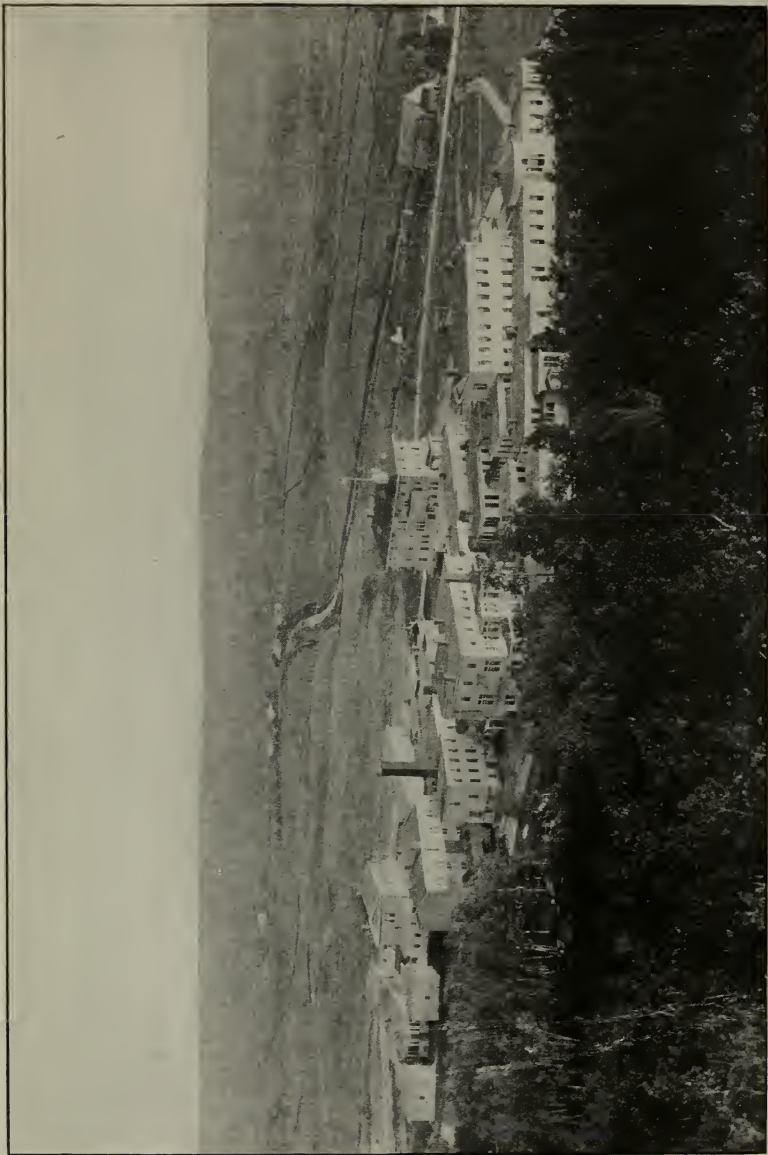
In closing, we desire again to express our keen appreciation of the faithful and efficient work of our assistants, Dr. Henry B. Dunham, Dr. George N. Lapham and Dr. George W. Derrick. To Dr. Marcley, Miss Thrasher and the nurses we extend our thanks for their uniform courtesy and co-operation in our work.

Respectfully yours,

VINCENT Y. BOWDITCH.
HERBERT C. CLAPP.

LIST OF WAGES.

Examining and visiting physicians (per annum),	\$1,500 00
Superintendent and treasurer (per annum),	2,500 00
Matron and superintendent of nurses (per annum),	1,200 00
Assistant physician (per annum),	1,000 00
Assistant physician (per annum),	900 00
Assistant physician (per annum),	500 00
Farmer (per annum),	800 00
Bookkeeper (per annum),	780 00
Dietitian and steward (per month),	65 00
Nurses, day (per month),	\$15 to 40 00
Nurses, night (per month),	35 and 40 00
Record clerk (per month),	30 00
Stenographer (per month),	30 00
Clerk's assistants (per month),	\$18 and 20 00
Supervisor, male (per month),	50 00
Supervisors, female (per month),	\$13 to 25 00
Engineer and fireman (per month),	25 and 35 00
Engineer and fireman (per month), without living,	50 and 60 00
Fireman's helper (per month),	10 to 25 00
Cook (per month),	85 00
Baker (per month),	\$60 to 70 00
Carpenter (per month),	70 00
Night attendant (per month),	\$15 to 25 00
Head laundress (per month),	25 00
Laundry help, male (per month),	25 00
Laundry help, female (per month),	\$12 to 20 00
Ward help, male (per month),	15 00
General work, male and female (per month),	\$10 to 25 00
Storeroom man (per month),	25 to 30 00
Pharmacist (per month),	10 and 12 00
Kitchen help, male (per month),	15 to 32 50
Coachman (per month),	25 00
Teamsters (per month),	\$25 and 36 00
Farm help (per month),	5 to 35 00
Farm help, without living (per day),	1 50 and 1 75
Mail carrier (per month),	5 00



VIEW OF THE SANATORIUM, FROM THE WATER TOWER NORTHWEST OF BUILDINGS.

NINTH ANNUAL REPORT

OF

THE TRUSTEES

OF THE

MASSACHUSETTS

STATE SANATORIUM

AT RUTLAND.

SEPTEMBER 30, 1905.



BOSTON :

WRIGHT & POTTER PRINTING CO., STATE PRINTERS,
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1906.

C.

APPROVED BY
THE STATE BOARD OF PUBLICATION.



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OFFICERS

OF THE

MASSACHUSETTS STATE SANATORIUM.

TRUSTEES.

A. W. ESLEECK,	HOLYOKE.
W. E. PARKHURST,	.	.	.	.	.	.	.	.	CLINTON.
J. P. RAND, M.D., <i>Secretary</i>,	.	.	.	.	.	.	.	.	WORCESTER.
A. C. GETCHELL, M.D.,	.	.	.	.	.	.	.	.	WORCESTER.
MRS. FANNY S. RUSSELL,	.	.	.	.	.	.	.	.	BROCKTON.
MRS. SYLVIA B. KNOWLTON,	.	.	.	.	.	.	.	.	WEST NEWTON.
J. C. HAMMOND, <i>Chairman</i>,	.	.	.	.	.	.	.	.	NORTHAMPTON.

EXAMINING AND VISITING PHYSICIANS.

VINCENT Y. BOWDITCH, M.D.,	.	.	.	.	.	.	BOSTON.
HERBERT C. CLAPP, M.D.,	.	.	.	.	.	.	BOSTON.

RESIDENT OFFICERS.

WALTER J. MARCLEY, M.D.,	.	.	<i>Physician, Superintendent and Treasurer.</i>
MARY E. THRASHER,	.	.	<i>Matron and Superintendent of Nurses.</i>
HENRY B. DUNHAM, M.D.,	.	.	<i>Physician.</i>
GEORGE N. LAPHAM, M.D.,	.	.	<i>Physician.</i>
BAYARD T. CRANE, M.D.,	.	.	<i>Physician.</i>
THOMAS N. STONE, M.D.,	.	.	<i>Physician.</i>
CHARLES E. CARROLL,	.	.	<i>Bookkeeper.</i>
FLORENCE M. FRASER,	.	.	<i>Dietitian and Steward.</i>
WILLIAM F. MOORE,	.	.	<i>Chief Engineer.</i>
FREDERICK H. DRURY,	.	.	<i>Farmer.</i>

Commonwealth of Massachusetts.

REPORT OF TRUSTEES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

The trustees of the Massachusetts State Sanatorium respectfully submit their ninth annual report.

We herewith transmit the report of the superintendent and treasurer and of the medical staff. The medical reports continue to be of the greatest interest, and are of increasing value.

THE CAPACITY OF THE SANATORIUM.

The sanatorium now accommodates 365 patients in cold weather and 355 in warm weather. The difference results from the fact that in the warmer months it is thought best to remove about 10 beds, in order to relieve what would be at that season an uncomfortably crowded condition in some of the wards. These numbers fully occupy the new brick cottages which have now been completed. A third cottage is in process of construction, designed for 24 beds, to be used as an infirmary. It is believed that this, when completed, will greatly add to the comfort of those who from time to time become so ill as to be confined to their beds. It is to be completed in June next. The capacity will then be in winter 389, in summer 379. Certain conditions, however, cause the number to vary somewhat from week to week. Thus, when in an emergency additional nurses are required, they occupy beds which would otherwise be for women patients. We have no nurses' home, although one is much needed.

THE NEW HEATING PLANT AND NEW LAUNDRY.

The new heating plant and new laundry are satisfactory. Being now in a detached building, they are no longer a source of anxiety by reason of possible risk from fire.

THE EXPENSE PER CAPITA.

The expense per capita constantly receives the most watchful care. We ask the authorities to bear in mind that the work of this sanatorium is in a field which is still new. The success of the work must in no degree be diminished by unwise economy in quality of food or care. We are pleased to note that the expense this year is reduced to \$8.83 per week, as against \$9.36 last year.

For the information of all we venture to report a letter received from Dr. Trudeau, the pioneer in this work in the Adirondacks:—

SARANAC LAKE, N. Y., Jan. 30, 1905.

Dr. WALTER J. MARCLEY, *Rutland, Mass.*

DEAR DOCTOR:—I have read with great interest the report of the Massachusetts State Sanatorium, and I want to congratulate you and all who are associated with the work on the way in which it has been done, and on what you have succeeded in accomplishing.

To obtain such results in a sanatorium that is not situated in a climate making any specific claims for benefiting tuberculous patients shows how thoroughly well managed the daily habits, diet and medical treatment must have been, and is of the utmost value to the entire country in demonstrating what may be accomplished outside of health resorts.

I note that your expense per capita is \$9.36. This might strike those unaccustomed to treating tuberculous cases as rather high, but it is a very different matter to run a sanatorium for the treatment of tuberculosis, and an ordinary hospital, so far as the expenses are concerned. Each patient requires more space, more food and careful supervision; and I find, in my own institution, were it not that most of the work done is given on humanitarian grounds, and much of it for the same reason is not sufficiently paid, the expense would run very high. I think Massachusetts deserves great credit for having shown other States the way in curing incipient tuberculosis.

Very sincerely yours,

E. L. TRUDEAU.

OUT-PATIENT DEPARTMENT.

Many tuberculous invalids resort to Rutland and find board in private houses. After conference with the State Board of Charity, and after much consideration, the trustees are establishing an out-patient department, for the benefit of such persons in the vicinity as may be unable to pay for medical attendance.

The superintendent and the other resident physicians, together with Dr. W. C. Chamberlain and Dr. David P. Butler, both resident and practising in Rutland, will constitute the medical staff, and arrange the hours when some one of them will attend to this duty. Cordial thanks are due to Drs. Chamberlain and Butler for their willingness to co-operate gratuitously in this work. It is an experiment, and its continuance will be determined by experience, as that shall be gathered.

During the past year Dr. Dunham and Dr. Lapham, the regularly employed physicians at the sanatorium, have made such of the examinations for admission to the sanatorium as have taken place at the Massachusetts General Hospital, each spending a day every week in Boston for that purpose. The tabulation of results has been made at the sanatorium by the resident physicians, with the co-operation and advice of the visiting physicians.

APPLICATION OF CIVIL SERVICE RULES.

The sanatorium employs patients so far as possible to do clerical work, copying, classification of records, typewriting and the like. Is it not expedient to modify the civil service rules so that patients may be preferred, or exempted from the rules?

The Ohio State Sanatorium Commission visited Rutland on April 7, 1905, and spent a day with our trustees in examination of the sanatorium and its work. The visitors were Hon. W. D. Gilbert, State Auditor; Hon. Wade H. Ellis, Attorney-General; C. O. Probst, M.D., secretary of the State Board of Health; T. B. Galloway, Esq., secretary to the Governor; Judge John D. Driggs; Frank L. Packard, Esq., architect.

In the Statutes of 1905, chapter 434, relative to trespassing on lands of State institutions of the classes named, the sanatorium is omitted, apparently by accident. We have need of the same protection, and ask that the sanatorium be included.

NEED OF FARM BUILDINGS AND A NEW ROAD.

We beg leave to refer to our report on this subject. We ask the same appropriation for the road, \$4,000. This outlay is recommended by the Massachusetts Highway Commission. Their engineers have laid out the road. It will give a road of good quality and grade to Muschopauge station, instead of a

hard, steep and muddy road. Economy in transportation will pay the cost in a very few years, and add to the comfort of patients and all who come and go.

The farm barn, where cows and horses are kept, stands on the front lawn of the sanatorium. It is old and unsightly. We repeat this, by way of expressing the urgency of our need. The farmer's house is needed for other employees. It is inconvenient for its present use, and annexed to it are very inadequate and unsuitable quarters for laborers. The detailed statement of needs is as follows:—

1. Farmer's house.
2. Annexed wing for help, with sleeping accommodations for 12 men.
3. Barn for hay.
4. Ell for cow stables.
5. Ell for horse barn.
6. Cold-storage cellar for vegetables.
7. A building of moderate cost for a piggery.

Careful study shows that these urgently needed buildings will require an appropriation of \$20,000. So far as we are informed, no other charitable institution established by the State is so destitute in this respect.

CARE OF GROVES.

Beautiful woodlands protect the grounds on the north and north-west. A small portion of them is shown in the "view" opposite the title page. The grove would be made still more attractive if some pruning could be done at moderate expense through several years, in such manner as the State Forester's department may advise. Paths should also be laid out. An outlay of \$500 yearly for a time would greatly add to the comfort and beauty of the surroundings. That amount is recommended for this year. This need, however, is not so imperative as the need of road and buildings.

ADDED MEMBERS OF THE BOARD.

The five trustees who have constituted the Board before the present year very gladly welcome the appointment of two women to the Board. Mrs. Agnes H. Long (Mrs. John D. Long),

appointed to the position, was obliged after brief and helpful service to resign.

The new members now on the Board are Mrs. Fanny S. Russell (Mrs. B. B. Russell) of Brockton and Mrs. Sylvia B. Knowlton (Mrs. H. M. Knowlton) of West Newton. They have devoted much time, and been very helpful in their new duties. The other members of the Board think that this mention should be made.

ADMISSION TO THE SANATORIUM.

The work so greatly interests the public that great disappointment is felt when applicants prove too far advanced to be admitted. All strictly incipient cases have been received ever since the sanatorium opened, and very many of the hopeful but moderately advanced cases. The sanatorium has at all times had all its beds occupied, except for the brief intervals which naturally occur between discharged and incoming patients.

We wish the fact could be everywhere better known that patients are received at the sanatorium strictly on the results of recorded physical examinations. The trustees always abstain from exerting any influence in such matters.

If this sanatorium received advanced cases, which at least must be treated for twice as long a time as incipient ones, it could treat only half as many.

For the harmonious working of the sanatorium continuously since the first patient was received Oct. 10, 1898, and for the successful results achieved, the Commonwealth is greatly indebted to the ability and devotion of the medical staff, both resident and visiting, and that of the superintendent and all his other assistants.

A. W. ESLEECK,
W. E. PARKHURST,
J. P. RAND,
A. C. GETCHELL,
F. S. RUSSELL,
SYLVIA B. KNOWLTON,
J. C. HAMMOND,

Trustees.

REPORT OF SUPERINTENDENT AND TREASURER.

I have the honor to present herewith my report for the year ending Sept. 30, 1905.

Examinations of applicants for admission have been made as formerly, according to the following schedule:—

At the sanatorium any day except Sunday.

At the Boston office of the sanatorium, which is located at the new out-patient department of the Massachusetts General Hospital, Wednesdays and Saturdays, from 1.30 to 3 o'clock P.M.

At Worcester City Hospital Wednesdays and Saturdays, from 9 to 10 A.M.

At Springfield by Dr. Everett A. Bates, 57 Chestnut Street.

At Pittsfield by Dr. J. F. A. Adams, 114 Wendell Avenue.

At Fall River by Dr. A. S. MacKnight, 355 North Main Street.

At Lowell by Dr. Boyden H. Pillsbury, 58 Kirk Street.

The time at each of the last four places, Wednesdays and Saturdays, at 2 P.M.

Recently the Worcester Hahnemann Hospital has been added to the list. Examinations are made there Thursdays, 4 to 5 P.M.

The total number of applicants examined during the year is 1,847. Of these, 843, or 46 per cent., were considered favorable for admission; 783, or 42 per cent., were considered unfavorable; and 221, or 12 per cent., doubtful. Many of these doubtful cases, after subsequent examinations, were deemed favorable for admission.

The increase in capacity of the institution (this year averaging 50 more than last year) has made it necessary to admit a larger percentage of more advanced cases. The percentage of acceptable cases upon examination has been the same this year as last year. We continue to hope that, as the educational influ-

ence of the sanatorium becomes more widely spread, a larger proportion of cases in the first stage of the disease will apply for admission.

Admissions and Discharges.

PATIENTS.	Males.	Females.	Totals.
Number of patients in the sanatorium Oct. 1, 1904, .	135	117	252
Number admitted within the year,	430	435	865
Number discharged during the year,	380	375	755
Number of deaths,	4	—	4
Patients remaining in the sanatorium Sept. 30, 1905, .	181	177	358
Daily average number of patients,	166	141	307

Residence of Patients admitted.

COUNTIES.	Patients.	COUNTIES.	Patients.
Suffolk,	324	Norfolk,	46
Middlesex,	169	Plymouth,	21
Essex,	91	Hampshire,	8
Worcester,	95	Berkshire,	17
Bristol,	34	Barnstable,	5
Hampden,	50	Franklin,	5

Civil Condition.

	Males.	Females.	Totals.
Single,	254	260	514
Married,	164	147	311
Widowed,	11	19	30
Divorced,	1	9	10

Occupations.

	Males.	Females.		Males.	Females.
Artist,	1	-	Chemist,	1	-
Architect,	1	-	Cabinet makers, . .	3	-
Actor,	1	-	Civil engineer, . .	1	-
Advertising agents, .	2	-	Designers,	3	1
Attendants,	3	3	Draughtsmen, . . .	3	-
Baggageman, . . .	1	-	Domestics,	-	59
Barbers,	8	-	Dressmakers, . . .	-	12
Bartenders,	6	-	Elevator man, . . .	1	-
Blacksmiths, . . .	2	-	Engineers, stationary,	2	-
Bookkeepers, . . .	9	8	Errand boy,	1	-
Butchers,	4	-	Expressman,	1	-
Brakemen,	4	-	Electricians, . . .	2	-
Bottlers,	2	-	Factory and mill oper- atives.	88	71
Boiler maker, . . .	1	-	Farmers,	5	-
Basket maker, . . .	1	-	Firemen, stationary, .	2	-
Book binders, . . .	4	1	Florist,	1	-
Bell boy,	1	-	Foremen,	2	-
Bundle girl,	-	1	Fruit and produce merchant.	1	-
Carpenters,	3	-	Gardeners,	2	-
Cigar makers, . . .	5	-	Grocers,	2	-
Clerks,	40	7	Guard, Boston Ele- vated Railway.	1	-
Coachmen,	6	-	Home work,	-	30
Chauffeur,	1	-	Housewives,	-	130
Conductor, electric railway.	1	-	Hair dressers, . . .	-	2
Cooks,	2	3	Insurance agents, . .	4	-
Cashiers,	-	2	Iron moulder, . . .	1	-
Casket maker, . . .	1	-	Janitors,	3	-

Occupations — Concluded.

	Males.	Females.		Males.	Females.
Jewelers, . . .	2	—	Salespeople, . . .	19	17
Laborers, . . .	10	—	Shoemakers, . . .	4	—
Letter carriers, . . .	3	—	Shippers, . . .	4	—
Laundresses, . . .	—	3	Stenographers, . . .	1	21
Lamp maker, . . .	1	—	Store keepers, . . .	2	—
Machinists, . . .	20	—	Stone cutters, . . .	5	—
Messengers, . . .	2	—	Switchmen, . . .	2	—
Motormen, . . .	5	—	Students, . . .	13	19
Milliner, . . .	—	1	Seamstresses, . . .	—	6
Musician, . . .	—	1	Silver plater, . . .	1	—
None, . . .	2	7	Sailors, . . .	3	—
Newspaper reporter, . . .	1	—	Stock boy, . . .	1	—
Nursemaids, . . .	—	4	Ship builder, . . .	1	—
Nurses, student, . . .	—	1	Stablemen, . . .	2	—
Nurses, trained, . . .	—	4	Steward, . . .	1	—
Optician, . . .	1	—	Truckman, . . .	1	—
Painters, . . .	3	—	Tailors, . . .	13	2
Plumber, . . .	1	—	Teachers, . . .	1	5
Peddlers, . . .	4	—	Teamsters, . . .	24	—
Pharmacists, . . .	3	—	Telegraph operator, . . .	—	1
Photographer, . . .	1	—	Telephone operators, . . .	—	5
Proprietor billiard room.	1	—	Ticket seller, . . .	1	—
Pressman, . . .	1	—	Ticket chopper, . . .	1	—
Printers, . . .	19	—	Upholsterer, . . .	1	—
Professional singer, . . .	1	—	Valet, . . .	1	—
Physician, . . .	1	—	Waiters, . . .	6	7
Roofer, . . .	1	—			

The financial statement for the year is as follows:—

Cash receipts on hand Oct. 1, 1904, as per eighth annual report,	\$8,887 81
Received from State Treasurer,	215,486 70
Received from patients for board and treatment,	46,130 78
Received from cities and towns for support of patients, . .	2,317 32
Received from State, soldiers' relief, and from charitable associations for support of patients,	2,622 12
Received from patients for hospital and cuspidor supplies, .	2,516 64
Received from patients for freight and express,	91 56
Received from patients for telephone and telegraph, . . .	137 98
Received from patients for stationery and office supplies, .	364 77
Received from patients for sundries,	371 32
Received from sale of farm products,	2,436 52
Received from sale of grease,	1,070 61
Received from sale of other merchandise,	348 89

\$282,783 02

EXPENSES.

Salaries and wages,	\$37,431 93
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Food:—

Butter and butterine,	\$3,755 45
Beans,	75 55
Bread and crackers,	120 66
Cereals, rice, meal, etc.,	578 29
Cheese,	896 84
Eggs,	5,911 57
Flour,	1,653 69
Fish,	804 17
Fruit,	1,333 58
Meats,	23,988 77
Milk,	4,550 07
Molasses,	59 35
Sugar,	1,500 19
Sundries,	2,624 01
Tea, coffee and cocoa,	461 68
Vegetables,	1,724 36

50,038 23

Furnishings:—

Beds, bedding, table linen, etc.,	\$641 59
Brushes, brooms, etc.,	164 67
Carpets, rugs, etc.,	57 20
Crockery, glassware, cutlery, etc.,	624 14
Furniture and upholstery,	498 47
Kitchen furnishings,	240 50
Wooden ware, buckets, pails, etc.,	33 50
Sundries,	459 56

2,719 63

Amount carried forward, \$90,189 79

Amount brought forward, \$90,189 79

Heat, light and power:—

Coal,	\$5,161 38	
Electricity,	15 33	
Oil,	182 25	
Sundries,	327 24	
Wood,	273 00	
		<hr/>
		5,959 20

Repairs and improvements:—

Cement, lime and plaster,	\$172 59	
Doors, sashes, etc.,	4 00	
Electrical work and supplies,	10 92	
Hardware,	203 98	
Lumber,	178 05	
Mechanics and laborers (not on pay roll),	1,594 44	
Paints, oils, glass, etc.,	432 35	
Plumbing, steam fitting and supplies,	380 79	
Roofing and materials,	18 00	
Sundries,	932 84	
		<hr/>
		3,927 96

Farm, stable and grounds:—

Blacksmith and blacksmith supplies,	\$116 45	
Carriages, wagons and repairs,	621 63	
Fertilizers, vines, seeds, etc.,	772 82	
Harness and repairs,	74 97	
Hay, grain, etc.,	4,539 74	
Labor (not on pay roll),	623 44	
Live stock:—		
Cows,	279 00	
Horses,	200 00	
Sundries,	360 31	
Tools, farm machines, etc.,	228 36	
		<hr/>
		7,816 72

Miscellaneous:—

Books, periodicals, etc.,	\$38 80	
Chapel services and entertainments,	230 90	
Freight, expressage and transportation,	1,781 97	
Hose, etc.,	87 85	
Boston office,	1,341 11	
Medicine and hospital supplies,	2,725 04	
Postage,	750 24	
Printing and printing supplies,	438 75	
Cuspidor supplies,	2,874 53	
Soap and laundry supplies,	1,182 82	
Stationery and office supplies,	432 75	
		<hr/>

Amounts carried forward, \$11,884 76 \$107,893 67

<i>Amounts brought forward,</i>	\$11,884 76	\$107,893 67
Sundries,	2,675 14	
Telephone and telegraph,	689 50	
Travel and expenses (officials), . . .	1,519 16	
Water,	749 99	
		<hr/> 17,518 55
Total,		\$125,412 22
Extraordinary expense,		8,011 40
Extraordinary expense, special appropriation,		64,532 36
Sent to State Treasurer, cash receipts on hand Sept. 30, 1904, .		8,887 81
Sent to State Treasurer, cash receipts of current year, . .		48,305 39
Cash receipts on hand to be sent,		10,103 12
Liabilities of 1904 (paid this year),		17,530 72
		<hr/> \$282,783 02

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$10,103 12	
Bills receivable,	3,224 21	
Unexpended appropriation for expenses,	46,498 63	
Total resources applicable to ordinary ex- penses,		<hr/> \$59,825 96

Liabilities.

Salaries unpaid,	\$3,658 81	
Miscellaneous bills (current ex- penses),	17,922 11	
		<hr/> \$21,580 92
Extraordinary expense,	3,867 36	
Total liabilities,		<hr/> 25,448 28
Balance for the institution,		\$34,377 68

SUMMARY OF CURRENT EXPENSES FOR THE YEAR ENDING SEPT. 30, 1905.

Total expenditures for the year,	\$125,412 22
Unpaid bills,	21,580 92
	<hr/> \$146,993 14
Deducting amount of sale of supplies to patients,	4,901 77
	<hr/> \$142,091 37
Deducting further the increase of supplies on hand Oct. 1, 1905,	1,097 93
	<hr/> Total current expenses, \$140,993 44

Dividing this amount by the daily average number of patients, 307, gives an average annual cost of \$459.26, equivalent to an average weekly cost of \$8 83.

The farm account is as follows:—

DR.

Blacksmith,	\$98 35
Board of men, at \$15 per month,	1,155 00
Fertilizers and seeds,	1,016 26
Grain and feed for stock,	5,148 57
Harness,	15 20
Labor not on pay roll,	1,011 46
Live stock, cows,	324 00
Miscellaneous supplies and repairs,	120 77
Pay roll,	4,526 16
Tools,	174 22
Wagons, etc.,	102 08
Waste from sanatorium kitchen,	200 00
	<hr/>
	\$13,892 07
Balance in favor of farm,	886 97

\$14,779 04

CR.

Board of driving horses, at \$15 per month,	\$900 00
Labor for sanatorium,—putting in ice, hauling provisions from station, etc.,	1,433 25
Milk, 136,663½ quarts, at 4½ cents,	5,808 21
Vegetables supplied,	419 46
Sold:—	
Hay,	144 88
Sleigh,	10 00
Fertilizer,	49 00
Grease,	200 00
Cows,	245 50
Hogs,	1,933 64
Horse,	100 00
Sundries,	3 10
Products of the farm on hand, as estimated Oct. 1, 1905,	2,072 50
Fourteen acres of pasture land reclaimed, at a cost of \$30 per acre,	420 00
It is estimated that one-half the farmer's time is devoted to general care of outside matters, such as transportation of coal and other freight, the ice supply, care of filter beds, etc., the farm is therefore credited one-half his salary,	400 00
Increase of live stock on farm, as per inventories of 1904 and 1905,	639 50

\$14,779 04

PRODUCTS OF THE FARM.

Delivered to the Sanatorium during the Year.

Beans, shell, 35 bushels, at \$0.75 to \$1.50,	\$43 50
Beans, wax, 26 $\frac{3}{4}$ bushels, at \$1,	26 75
Beets, 24 bushels, at \$0.50 to \$0.80,	16 25
Beet greens, 17 bushels, at \$0.25,	4 25
Cabbage, 618 pounds, at \$0.016,	9 91
Carrots, 12 bushels, at \$0.50 to \$1,	7 10
Cauliflower, 5 heads,	65
Celery, 440 bunches, at \$0.06 $\frac{1}{4}$ to \$0.10,	33 47
Corn, sweet, 288 dozen, at \$0.08 to \$0.10,	28 24
Cucumbers, 4,954,	45 92
Lettuce, 280 dozen, at \$0.10, \$0.15 and \$0.25,	52 10
Onions, 559 bunches, at \$0.015 to \$0.02, and 7 bushels, at \$0.60 to \$0.65,	15 22
Pears, 1 bushel,	1 75
Peas, 8 $\frac{1}{4}$ bushels, at \$1.50,	12 37
Peppers, 124, at \$0.004,	50
Radishes, 21 bushels, at \$0.75 to \$1,	16 25
Rhubarb, 1,310 pounds, at $\frac{3}{4}$ cent,	11 32
Squash, 3,100 pounds, at \$0.01,	31 00
Swiss chard, 25 $\frac{1}{2}$ bushels, at \$0.33 $\frac{1}{3}$,	8 50
Tomatoes, 10 $\frac{1}{4}$ bushels, at \$1.04 $\frac{1}{2}$,	10 72
Tomatoes, green, 66 bushels, at \$0.60,	39 60
Turnips, 10 $\frac{1}{4}$ bushels, at \$0.35 to \$0.75,	4 09
	<hr/>
	\$419 46

On Hand Oct. 1, 1905.

Apples, 25 barrels, at \$2,	\$50 00
Beets, 40 bushels, at \$0.60,	24 00
Carrots, 100 bushels, at \$0.50,	50 00
Celery, 33 dozen, at \$1,	33 00
Ensilage, 225 tons, at \$4,	900 00
Hay, 55 tons, at \$15,	825 00
Hungarian, 2 tons, at \$12.50,	25 00
Oats, fodder, 3 tons, at \$10,	30 00
Rowen, 2 tons, at \$10,	20 00
Rye, 20 bushels, at \$0.75,	15 00
Rye straw, 2 tons, at \$15,	30 00
Squash, 5 tons, at \$12.50,	62 50
Turnips, 20 bushels, at \$0.40,	8 00
	<hr/>
	\$2,072 50

During the past year 40 patients have been supported in the institution by cities and towns. The Associated Charities of Boston, Worcester and other cities, the Federation of Jewish

Charities of Boston, the Boston Provident Association, the Boston Association for the Relief and Control of Tuberculosis, and other charitable associations, have supported 37 patients at the sanatorium. I wish to express here my thanks for this timely assistance to many who are in need.

There have been more changes than usual in our staff. Dr. Bayard T. Crane entered upon his duties as assistant physician Nov. 15, 1904. Dr. George W. Derrick, after two years' satisfactory service in the laboratory and as general medical assistant, left the sanatorium July 1, 1905, to enter into private practice in Cambridge. We wish for him every success. Dr. George M. Stone came to us in August of this year as Dr. Derrick's successor. A new laboratory, larger and better equipped than the one now in use in the administration building, is being fitted up in the old laundry room, made vacant by removal of the laundry to the new building. The work of the laboratory physician will be much facilitated by this improvement.

Our present system of record keeping, filing of applications for admission, etc., is complete and very satisfactory, and of inestimable value to the institution. It is largely the work of Ralph O. Waitt, whose faithful services as record clerk extended over a period of more than three years, and who died in April, 1905.

Recently the physicians resident at the sanatorium, together with those practising in Rutland, Jefferson and Holden, have organized a medical club, known as the Rutland Clinical Club. We meet at the sanatorium twice every month, when papers upon medical topics are read and discussed. This club bids fair to become a prominent and important factor in the life of the sanatorium.

Our patients' "working list," which provides light work in doors or on the grounds for many of the patients, has continued in force throughout the year, with satisfactory results.

We have received warm clothing for patients, magazines and newspapers for the library, and other useful articles. The donors are herewith cordially thanked for these gifts. Many patients come to the sanatorium totally unprepared to take the treatment during the cold weather. They are in need of warm underwear, heavy out-of-door wraps, fur robes, etc. Such articles as these, when received are always put to most excellent use.

Without many faithful workers in all parts of the sanatorium such an institution as this could not exist. I take pleasure in expressing here my appreciation of the satisfactory services of all employees.

With grateful acknowledgment to your Board for your continued support, I am yours respectfully,

WALTER J. MARCLEY.

REPORT OF THE EXAMINING AND VISITING PHYSICIANS.

SEPT. 30, 1905.

To the Trustees of the State Sanatorium.

LADIES AND GENTLEMEN: — We offer herewith the combined reports of the two medical departments for the year ending Sept. 30, 1905.

Whole number of patients discharged during the year,	760
Number who remained only about one month, and whose cases are therefore not considered,	194
Number taken into consideration in our report,	566

Of the 194 cases which are not considered, the majority were patients with symptoms favorable for treatment, but who left for various reasons at or before the end of the month, — sometimes because of urgent calls at home, often for unwillingness to conform to rules, at times for insubordination. A small minority were discharged because of increased evidence of rapidly advancing disease, which made a change imperative. In a few cases the time was extended over the one month limit, in order to determine by the tuberculin test the existence or otherwise of tubercular disease.

Table of Results.

Per Cent.	Result.	Incipient.	Moderately advanced.	Advanced.	Totals.
33.7	"Arrested," and "apparently cured," .	143	37	11	191
58.9	"Improved" (including all shades of improvement),	75	167	91	333
7.4	"Not improved" (including four deaths),	6	15	21	42
	Totals,	224	219	123	566 ¹

¹ Six of these only could be said to be somewhat doubtful cases of tuberculosis. The great majority of the remainder were positively tubercular.

"In the above table, in accordance with our previous custom, we use the terms "arrested" and "apparently cured" to express the same idea, viz., that all active symptoms, such as cough, sputa containing bacilli, and fever, have disappeared at the time of discharge, the general condition being one of apparent health.

Of the incipient cases, 64.2 per cent. were "arrested" or "apparently cured."

Of the 566 patients, the average length of stay was 5 mos. 7 days.

Of the 566 patients, the number who gained weight was . 544

Average gain in weight of these was 13 $\frac{3}{4}$ pounds.

Of the 566 patients, the number who lost weight was . . 22

Average loss of weight of these was 4 $\frac{1}{2}$ pounds.

Greatest gain in weight was 53 $\frac{1}{2}$ pounds.

Comparison of Percentages in the First, Second, Third, Fourth, Fifth, Sixth and Seventh Years.

	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Per cent. of "arrested" and "apparently cured" cases,	34.28+	42.35	46.12	48.31	48.97	44.8	33.7
Per cent. of all classes of "improved" cases,	39.36+	44.70	47.64	44.51+	43.00+	47.7	58.9
Per cent. of "not improved" cases,	26.04+	12.95	5.74	6.73+	7.90+	7.4	7.4

It will be noticed that the percentage of "arrested" and "apparently cured" cases this year is much smaller than that in previous years. The reason for this is readily explained by the fact that, in consequence of the great enlargement of the sanatorium, it became necessary to admit a much greater number of advanced cases than before, in order to fill the beds.

With the co-operation of the medical profession in trying to send only cases which are really showing the first symptoms of disease, we see no reason for not obtaining in the future results equal to those in the past.

SUBSEQUENT HISTORIES TO DATE OF FORMER PATIENTS OF
BOTH DEPARTMENTS TREATED IN THE SANATORIUM PRE-
VIOUS TO OCT. 1, 1904.

The subsequent histories of former patients make the crucial test of any method of treatment, and are of vital importance.

For the first time in the history of the sanatorium, tabulations of the results of former treatment have been made with painstaking care, and are hereby appended. That they give us convincing proof of the value of the work at Rutland in the past six years we think no one can deny.

Total number treated,	2,200
Able to work,	1,179
Not able to work,	34
No reply to letter,	377
No trace,	49
Dead,	561
	<hr/>
	2,200
Total number "arrested" and "apparently cured,"	989
Able to work,	743
Not able to work,	14
No reply to letter,	139
No trace,	19
Dead,	74 ¹
	<hr/>
	989

In reading these figures, it must be remembered, moreover, that failure to receive replies or inability to trace the patient does not mean necessarily that the result has been unfavorable. In many of the earlier cases we have failed to receive news for months after the first inquiries have been made. Oftentimes, too, favorable accounts have been received of former patients through others. It is reasonable to suppose, therefore, that many of those from whom we have not heard as yet are still alive and at work.

For the benefit of medical men, especially those who are closely connected with sanatoria, the following tables of results are given as a means of comparison, in accordance with the plan

¹ Four have died from causes other than tuberculosis.

adopted for trial in the National Association for the Study and Prevention of Tuberculosis at Washington last May.

It will be noted at once that the definition of the terms "arrested" and "apparently cured" differs from that hitherto used in our reports. The definitions are hereby appended. The whole report of the nomenclature committee can be found in the Transactions of the National Association for 1905, or in the Boston Medical and Surgical Journal, Oct. 26, 1905, p. 478, and Nov. 9, 1905, p. 539.

"*Arrested.*" — Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs stationary or retrogressive; the foregoing conditions to have existed for at least *two months*.

"*Apparently cured.*" — All constitutional symptoms and expectoration with bacilli absent for a period of *three months*, the physical signs to be those of a healed lesion.

Results by "National Association Classification and Tabulation."

Per Cent.		Incipient.	Moderately advanced.	Far advanced.	Totals.
21.8	Apparently cured,	78	23	7	108
40.6	Arrested,	93	74	54	221
31.4	Improved,	24	77	95	196
5.6	Not improved,	4	9	28	41
	Totals,	199	183	184	566

It will be readily understood that, owing to the length of time required to pronounce a case "arrested" or "apparently cured," many patients have been discharged by this method as "improved" simply, because for many reasons they were obliged to leave the sanatorium immediately after an apparent return to a normal state of health. In many of these cases the subsequent history would amply justify the more favorable terms. The question therefore arises, in order to give full justice to the results of sanatorium treatment, whether a period of probation after discharge should not be given before the final result is tabulated, in those cases who leave earlier than is thought best.

As to the needs of the institution, we urge the necessity of an increased number of verandas for reclining chairs outside

the main wards. We believe also that provision should be made for patients who are unable to supply themselves with the necessary number of blankets for the coldest weather.

We notice with satisfaction the erection of the new infirmary, and urge the speedy completion and equipment of the new laboratory, the old one being quite inadequate for the purpose and unhygienic.

Our special thanks are due to the assistant physicians, Dr. Henry B. Dunham, Dr. George B. Lapham, Dr. Bayard T. Crane and Dr. Thomas H. Stone. To the superintendent, Dr. Marcle, and the matron, Miss Thrasher, and the nurses, we wish to acknowledge their uniform courtesy and co-operation.

Respectfully,

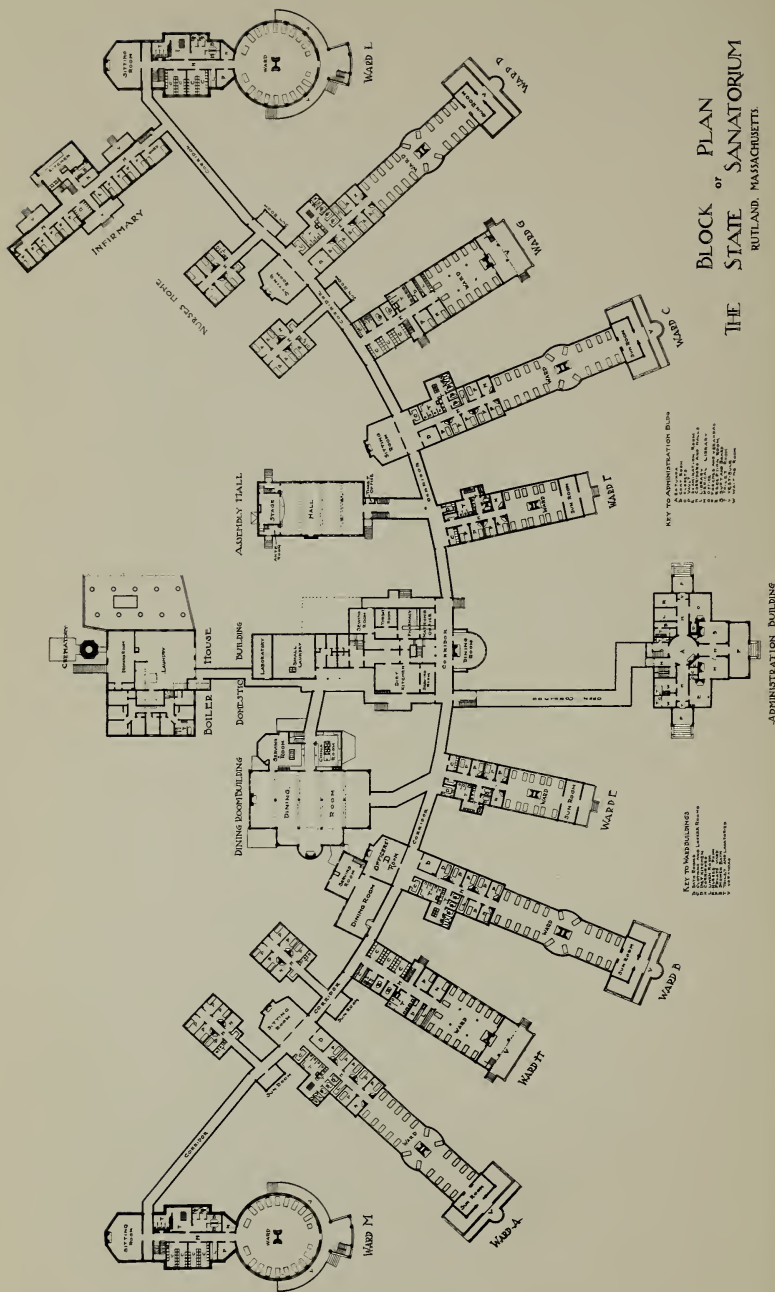
VINCENT Y. BOWDITCH.

HERBERT C. CLAPP.

LIST OF WAGES.

Examining and visiting physicians (per annum), . . .	\$1,500 00
Superintendent and treasurer (per annum), . . .	2,500 00
Matron and superintendent of nurses (per annum), . . .	1,200 00
Assistant physician (per annum), two, each, . . .	1,000 00
Assistant physician (per annum), . . .	900 00
Assistant physician (per annum), . . .	500 00
Farmer (per annum), . . .	800 00
Bookkeeper (per annum), . . .	780 00
Chief engineer (per annum), . . .	1,000 00
Dietitian and steward (per month), . . .	75 00
Nurses, day (per month), . . .	\$15 to 45 00
Nurses, night (per month), . . .	35 and 40 00
Record clerk (per month), . . .	20 00
Stenographer (per month), . . .	30 00
Clerk's assistants (per month), . . .	25 00
Supervisor, male (per month), . . .	35 00
Supervisors, female (per month), . . .	\$17 to 35 00
Engineer and fireman (per month), . . .	35 and 50 00
Engineer and fireman (per month), without living, . . .	40 and 60 00
Cook (per month), without living, . . .	85 00
Baker (per month), without living, . . .	75 00
Carpenter (per day), without living, . . .	2 70
Night attendant (per month), . . .	35 00
Head laundress (per month), . . .	30 00
Laundry help, male (per month), . . .	25 00
Laundry help, female (per month), . . .	\$13 to 20 00
Ward help, male (per month), . . .	15 and 18 00
General work, male and female (per month), . . .	10 to 20 00
Storeroom man (per month), . . .	35 00
Pharmacist (per month), . . .	10 00
Kitchen help, male (per month), . . .	\$15 to 32 50
Coachman (per month), . . .	25 00
Teamsters (per month), . . .	25 00
Farm help (per month), . . .	\$20 to 25 00
Farm help (per month), without living, . . .	40 00
Farm help, without living (per day), . . .	\$1.50 to 1 75

THE BLOCK of PLAN STATE of SANATORIUM RUTLAND, MASSACHUSETTS



TENTH ANNUAL REPORT
OF
THE TRUSTEES
OF THE
MASSACHUSETTS
STATE SANATORIUM
AT RUTLAND.

NOVEMBER 30, 1906



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C.

APPROVED BY
THE STATE BOARD OF PUBLICATION.

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OFFICERS

OF THE

MASSACHUSETTS STATE SANATORIUM.

TRUSTEES.

W. E. PARKHURST,	CLINTON.
J. P. RAND, M.D., <i>Secretary</i>,	. . . . .	WORCESTER.
A. C. GETCHELL, M.D.,	. . . . .	WORCESTER.
MRS. FANNY S. RUSSELL,	. . . . .	BROCKTON.
MRS. SYLVIA B. KNOWLTON,	. . . . .	WEST NEWTON.
J. F. A. ADAMS, M.D., <i>Chairman</i>,	. . . . .	PITTSFIELD.
A. W. ESLEECK,	. . . . .	HOLYOKE.

EXAMINING AND VISITING PHYSICIANS.

HERBERT C. CLAPP, M.D.,	. . . . .	BOSTON.
EDWARD O. OTIS, M.D.,	. . . . .	BOSTON.

RESIDENT OFFICERS.

WALTER J. MARCLEY, M.D.,	. <i>Physician, Superintendent and Treasurer.</i>
HENRY B. DUNHAM, M.D.,	. <i>Physician.</i>
GEORGE N. LAPHAM, M.D.,	. <i>Physician.</i>
BAYARD T. CRANE, M.D.,	. <i>Physician.</i>
ARCHIBALD W. HUGHES, M.D.,	. <i>Assistant Physician.</i>
CHARLES F. MAHONEY, M.D.,	. <i>Assistant Physician.</i>
JOHN E. RUNNELLS, M.D.,	. <i>Assistant Physician.</i>

MARY E. THRASHER,	. . . <i>Matron and Superintendent of Nurses.</i>
CHARLES E. CARROLL,	. . . <i>Clerk and Steward.</i>
RUTH MONTAGUE,	. . . <i>Dietitian.</i>
WILLIAM F. MOORE,	. . . <i>Chief Engineer.</i>
FREDERICK H. DRURY,	. . . <i>Farmer.</i>

Commonwealth of Massachusetts

REPORT OF TRUSTEES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

The trustees of the Massachusetts State Sanatorium respectfully submit their tenth annual report.

The Board of Trustees remains the same as last year, with the exception of John C. Hammond, who resigned in July last, after eleven years of faithful and devoted service, having been chairman of the Board all of that time. The vacancy was filled by the appointment of Dr. J. F. A. Adams of Pittsfield, who has been elected chairman of the Board. Mr. A. W. Esleeck, whose term expired, has been reappointed.

Dr. Edward O. Otis became visiting physician Jan. 1, 1906, being elected to fill the position formerly held by Dr. Vincent Y. Bowditch, who for eight years had served the sanatorium with conspicuous ability.

Dr. Walter J. Marcley, who from the beginning has been the faithful and efficient superintendent, has been appointed chief medical and executive officer of the new State Sanatorium of Minnesota, and has tendered his resignation, to take effect Feb. 1, 1907.

The house staff of physicians is the same as last year, except that the office of pathologist has been abolished, and instead three junior assistants have been employed.

Four new local examining physicians have been appointed : Drs. E. H. Copeland and J. C. Hanson, at Northampton ; Dr. Charles T. Canedy, at Greenfield ; and Dr. R. A. Woodruff, at Pittsfield.

CHANGE IN ADMINISTRATION.

In accordance with the recommendation of the State Board of Charity, indorsed and actively advised by the Governor and Council, the trustees have decided to change the mode of administration by appointing a resident medical superintendent, who shall have full medical and executive charge, and to dispense with the services of the visiting physicians. The Board is making careful inquiries, and hopes soon to find the right person to fill this important and responsible position.

BUILDINGS.

The infirmary building is now completed, and occupied by patients. This affords separate rooms for the very sick, and relieves the overcrowding of the wards.

Additional piazzas are greatly needed, where patients can sit out, sheltered from the wind. We fully concur with the superintendent and the visiting physicians as to the importance of this addition, and ask for an appropriation of \$2,000 for this purpose.

The barn is a disfigurement to the grounds, standing, as it does, on the front lawn and close to the road; and it is so old and decrepit as to be a discredit to the State. A new barn should be built, on the other side of the road and a little farther away from the sanatorium. A new farmhouse is also needed, with sufficient accommodations for the farm laborers, for whom there is now no adequate provision. A new piggery, farther removed from dwellings, is also a necessity.

For these changes an appropriation of \$20,000 is respectfully asked. The appropriation of \$4,000, made last year, was found to be inadequate and has not been used.

ROAD TO THE STATION.

We beg leave to refer to our previous reports in the matter of a new road to the sanatorium station, on the Boston & Maine Railroad, and we again ask for an appropriation for this purpose. The former estimate was \$4,000, but, owing to the increased price of labor and materials, the present estimate is \$5,141. All the coal and other supplies for the sanatorium

must be carted a mile and a half over this road, which is rough and hilly, and in spring excessively muddy. By a change in location of a portion of the road the steepest hill will be avoided, and by macadamising the whole the difficulty of transportation will be greatly lessened, resulting in a saving which in a few years will pay for the outlay. As this road is but little used except by the sanatorium, the Highway Commission has decided that it is not a suitable location for a State road, and therefore this improvement can only be made through a special appropriation by the State, with such assistance as may be given by the town of Rutland.

THE SANATORIUM INTENDED FOR INCIPIENT CASES ONLY.

This institution was established by the State on the theory that incipient pulmonary tuberculosis is a curable disease. Its history, up to this time, has confirmed the theory. But the sanatorium has been so enlarged that not enough incipient cases apply to fill it. At the present time not more than one-third of the patients are strictly in the incipient stage; the remainder are in more or less advanced stages. While many of the latter will be greatly improved and perhaps able to return to their work, there is little expectation that they will be cured. We think that this should be clearly understood, for two reasons: first, that the real and substantial work of the sanatorium — the cure of incipient tuberculosis — may not suffer from the results that are sure to follow under the present conditions; and, secondly, that those who need may apply early, and physicians be taught to send their patients to the sanatorium in the incipient stage of the disease.

We wish it also to be understood that it is the policy of the institution to admit every incipient case at once, and that it is only more advanced cases who are obliged to wait for vacancies.

RULE CONCERNING PAYMENT.

We find it necessary to emphasize the fact that the purpose of the institution is to furnish State help, but not to assume the care of State charges, and to correct the impression which seems to prevail in some quarters, that patients are only expected to pay the charge of \$4 per week for a few weeks.

They are expected to pay during their entire stay in the institution, and are only excused from doing so for very imperative reasons.

ESTIMATES.

The estimates for the ensuing year are as follows : —

For maintenance,	\$170,000
For new road to station,	5,141
For piazzas,	2,000
For improvement of grounds,	500
For farm buildings,	20,000

The estimate for maintenance a year ago was \$165,000, but the appropriation was only \$150,000; consequently, we have to report a deficit of \$11,741.44, for which a special appropriation is necessary.

The estimate is based upon an average cost per capita during the past year of \$9.38. This is an increase of 55 cents a week for each patient over the previous year. This increase is chargeable to the generous feeding, which is considered an important part of the treatment.

W. E. PARKHURST,
JOHN P. RAND,
ALBERT C. GETCHELL,
FANNY S. RUSSELL,
SYLVIA B. KNOWLTON,
J. F. A. ADAMS,
A. W. ESLEECK,

Trustees.

Nov. 30, 1906.

REPORT OF SUPERINTENDENT AND TREASURER.

To the Board of Trustees.

LADIES AND GENTLEMEN:—I have the honor to present herewith my report for fourteen months, from Oct. 1, 1905, to Nov. 30, 1906.

The total number of applicants during this time was 2,102; of these, 897 were accepted for admission, 712 not accepted and 493 were considered doubtful. There were 554 re-examinations; of these, 182 were accepted, 265 not accepted and 107 considered doubtful.

Admissions and Discharges.

PATIENTS.	Males.	Females.	Totals.
Number of patients in the sanatorium Oct. 1, 1906, .	181	177	358
Number admitted within the fourteen months, . .	567	546	1,113
Number discharged during this time,	573	566	1,139
Number of deaths,	9	1	10
Patients remaining in the sanatorium Nov. 30, 1906, .	175	157	332
Daily average number of patients,	177	161	338

The daily average number of patients (338) was 31 more than the daily average of last year.

The average age of patients was twenty-seven years.

Residence of Patients admitted.

COUNTIES.	Patients.	COUNTIES.	Patients.
Suffolk,	383	Norfolk,	47
Middlesex,	245	Plymouth,	50
Essex,	98	Hampshire,	8
Worcester,	131	Berkshire,	20
Bristol,	47	Barnstable,	2
Hampden,	69	Franklin,	13

Civil Condition.

	Males.	Females.	Totals.
Single,	328	336	664
Married,	224	179	403
Widowed,	15	30	45
Divorced,	—	1	1

Occupations.

	Males.	Females.		Males.	Females.
Actors,	2	1	Brakemen,	3	—
Architects,	2	—	Boilermakers,	1	—
Attendants,	1	2	Bookbinders,	3	1
Barbers,	7	—	Bell boys,	3	—
Bartenders,	3	—	Bakers,	7	—
Blacksmiths,	5	—	Bootblacks,	2	—
Bookkeepers,	8	10	Brewers,	2	—
Butchers,	4	—	Butlers,	1	—

Occupations — Continued.

	Males.	Females.		Males.	Females.
Carpenters, . . .	14	-	Factory and mill oper- atives.	109	82
Cigarmakers, . . .	3	1	Farmers, . . .	3	-
Clerks, . . .	39	19	Firemen, stationary,	1	-
Coachmen, . . .	5	-	Firemen, locomotives,	1	-
Chauffeurs, . . .	1	-	Foremen, . . .	3	-
Conductor, electric railway.	4	-	Foundryman, . . .	1	-
Cooks, . . .	3	3	Fishhandlers, . . .	3	-
Cashiers, . . .	-	2	Grocers, . . .	1	-
Cabinet makers, . .	1	-	Hatmakers, . . .	2	-
Civil engineer, . . .	1	-	Hackman, . . .	1	-
Checker, . . .	1	-	Housework, . . .	-	55
Conductor, . . .	1	-	Housewives, . . .	-	150
Cash girl, . . .	-	1	Harness makers, . .	1	-
Cable splicer, . . .	1	-	Iron moulders, . . .	1	-
Chair maker, . . .	1	-	Janitors, . . .	6	-
Collectors, . . .	3	-	Jewelers, . . .	4	-
Draughtsmen, . . .	2	1	Laborers, . . .	29	-
Domestics, . . .	-	52	Ladies' maids, . . .	-	6
Dressmakers, . . .	-	14	Laundresses, . . .	-	3
Decorators, . . .	1	-	Letter carriers, . . .	4	-
Demonstrator, . . .	-	1	Longshoremen, . . .	3	-
Dentists, . . .	2	-	Machinists, . . .	32	-
Engravers, . . .	2	-	Messengers, . . .	2	-
Engineers, marine, .	2	-	Motormen, . . .	7	-
Engineers, stationary,	2	-	Milliners, . . .	-	8
Errand girl, . . .	-	1	Musicians, . . .	4	-
Electricians, . . .	2	-	Masons, brick, . . .	5	-

Occupations — Concluded.

	Males.	Females.		Males.	Females.
Mechanics, . . .	3	-	Stenographers, . .	2	16
No work, . . .	-	4	Storekeepers, . .	12	1
Newspaper reporters,	2	-	Stonecutters, . .	7	-
Nursemaids, . .	-	2	Students, . . .	24	27
Nurses, student, . .	-	3	Seamstresses, . .	-	21
Nurses, trained, . .	-	11	Sailors, . . .	2	-
Newsboy, . . .	1	-	Shipbuilder, . .	1	-
Opticians, . . .	2	-	Starter, . . .	1	-
Painters, . . .	4	-	Steamfitters, . .	5	-
Plumbers, . . .	5	-	Lawyers, . . .	3	-
Peddlers, . . .	7	-	Store detective, . .	-	1
Pharmacists, . .	1	-	Stereotyper, . .	1	-
Pressman, . . .	1	-	Straw worker, . .	1	-
Printers, . . .	11	1	Tailors, . . .	18	4
Proofreader, . .	1	-	Teachers, . . .	2	11
Physician, . . .	1	-	Teamsters, . .	16	-
Policeman, . . .	1	-	Telephone operators,	-	10
Paper cutter, . .	1	-	Tinsmith, . . .	1	-
Packers, . . .	2	-	Upholsterers, . .	2	-
Preachers, . . .	2	-	Waiters, . . .	2	6
Roofer, . . .	1	-	Wood carvers, . .	2	-
Rodman, . . .	1	-	Watchman, . .	1	-
Salespeople, . .	26	14	Watch repairer, . .	1	-
Shoecutters, . .	10	-	Wagon makers, . .	2	-
Shoemakers, . .	2	-	Watchmakers, . .	1	-
Shippers, . . .	7	-	Wig maker, . .	-	1

The physical condition of patients admitted this year was about the same as the physical condition of those admitted last year. Thirty-six per cent. of the considered cases under treatment are classified as incipient, 41 per cent. as moderately advanced and 21 per cent. as advanced. These facts, taken together with the results tabulated in the visiting physicians' report, should be considered in connection with any consideration of the comparative expenses for the two years. It is further to be noted that for the last two years the per cent. of arrested or apparently cured cases has been less than for the previous years. This condition is undoubtedly attributable to the enlargement of the institution, and the admission of more advanced cases in order to fill vacancies. I repeat the hope expressed in my report of last year, that, as the work of the sanatorium becomes more widely known, a larger percentage of the earlier cases will apply for admission.

The out-patient department, established by your Board, was organized and the first patient treated Feb. 10, 1906. Since that date 210 out-patient calls are registered. Dr. D. P. Butler of Rutland has been on duty every Thursday, and the physicians in the sanatorium have treated patients applying on Tuesdays and Saturdays. A certain amount of this work had been previously done by the resident physicians, without having definite days for this purpose. The present system seems to be working satisfactorily, and should be continued.

The present facilities for carrying on the laboratory work, while for several years considered sufficient for the routine examinations of sputum, urine and blood, are now quite inadequate for the needs of the institution. There is required for this purpose a simply constructed detached building, conveniently located, and provided with some means of supplying gas for heating incubator and for other purposes. It is also hoped that a man especially trained for pathological work may in the near future be added to the resident medical staff. If the best use is to be made of the admirable and abundant material here provided for scientific study, such an officer is essential.

It has been difficult to secure nurses and other women workers, partly because our accommodations for these assist-

ants are poor. Some years ago, when buildings were planned for the enlargement of the institution, a nurses' home was included in the plans. The institution has been equipped in almost every other way, but the nurses' home has not been provided.

The organization of a training school for nurses at the sanatorium would be a benefit to the institution. If we could offer a systematic course of instruction in this special line of work, it would attract young women who would be glad to give some time in the institution at a moderate salary. Graduate nurses from other schools would probably like to take a special course of instruction of three or four months. The extent of this institution's work is now sufficient to provide valuable material for instruction. There is a growing demand for young women who have had some experience in caring for cases of tuberculosis. Furthermore, the expense to the institution for nursing, which is now considerable, would undoubtedly be lessened by the employment of pupil nurses.

More piazza space is urgently needed, and it is hoped will be supplied in the near future.

The development of the grounds about the buildings is a matter which should not be overlooked. We have tried, with our so-called "working gang" of patients, to make some improvement every year, but we are in need of money to purchase loam and to provide trees and shrubs. The happiness of patients, which has a great deal to do with the medical progress of the case, is governed considerably by the immediate surroundings of the buildings. Nature has done a great deal for the site of the sanatorium. A yearly appropriation of a small sum would, after a few years, make the grounds very attractive.

A recreation pavilion, where patients could congregate out of doors for light games, is a needed addition.

We hope sometime to have a library building, provided with a large reading room, and erected especially for the purpose of "taking the treatment," with ample piazzas, perfect ventilation, etc. All well-equipped institutions of this kind have such buildings. We now have a collection of 1,500 volumes and more than 50 per cent. of the patients are constant readers. The enforced idleness of a several months' stay in the sana-

torium is made infinitely more pleasant and profitable by encouraging the intellectual in life. A few thousand dollars spent in this way would give a splendid return to the Commonwealth.

The educational factor in the work of the sanatorium would be greatly facilitated by the appointment of an officer whose duties would include visiting various parts of the State, to encourage ex-patients and assist in finding suitable employment for them, and in attempting to ameliorate the conditions under which the majority of ex-patients are required to work. Such an officer should be resident at the sanatorium, and have charge of the subsequent records of patients. Some of this work has been very well done by the Boston Association for the Relief and Control of Tuberculosis; but the number of persons as patients and ex-patients now connected with the sanatorium is so large that the appointment of a special officer to take charge of this work is very desirable.

The weekly per capita expense for the fourteen months is \$9.38, — an increase over last year of 55 cents. This increase is due largely to the increase in amounts of fresh meats used and to the higher prices paid for this article of food.

The detailed financial report for this time is as follows : —

RECEIPTS.

Cash on hand Oct. 1, 1905, as per ninth annual report,	\$10,103 12
Received from State Treasurer,	248,792 50
Received from patients for board and treatment,	55,886 82
Received from cities and towns for support of patients,	3,818 81
Received from State, soldiers' relief, and from charitable associations for support of patients,	3,846 69
Received from patients for hospital and cuspidor supplies,	2,785 21
Received from patients for telephone and telegraph,	155 26
Received from patients for freight and express,	55 66
Received from patients for stationery and office supplies,	207 83
Received from patients for sundries,	324 46
Received from sale of farm products,	2,391 34
<i>Amount carried forward,</i>	<i>\$328,367 70</i>

<i>Amount brought forward,</i>	\$328,367 70	
Received from sale of grease,	1,613 20	
Received from sale of other merchandise,	1,063 60	
Received for livery,	4 50	
Received as interest on bank balance,	204 08	
	<hr/>	\$331,253 08

EXPENSES.

Salaries and wages,	51,289 12
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Food:—

Butter and butterine,	\$5,466 81	
Beans,	49 74	
Bread and crackers,	138 55	
Cereals, rice, meal, etc.,	630 69	
Cheese,	166 65	
Eggs,	10,933 71	
Flour,	1,938 95	
Fish,	1,456 47	
Fruit,	3,384 31	
Meats,	41,151 61	
Milk,	7,112 12	
Molasses,	73 46	
Sugar,	2,089 08	
Sundries,	1,535 55	
Tea, coffee and cocoa,	849 48	
Vegetables,	4,325 38	
	<hr/>	81,302 56

Furnishings:—

Beds, bedding, table linen, etc.,	\$1,864 85	
Brushes, brooms, etc,	326 17	
Carpets, rugs, etc.,	147 09	
Glasses, crockery, etc.,	760 95	
Furniture and upholstery,	856 47	
Kitchen furnishings,	601 21	
Wooden ware, buckets, pails, etc.,	44 16	
Sundries,	91 60	
	<hr/>	4,692 50

Heat, light and power:—

Coal,	\$10,216 15	
Oil,	157 97	
Sundries,	311 76	
Wood,	76 75	
	<hr/>	10,762 63

Repairs and improvements:—

Cement, lime and plaster,	\$110 09	
Doors, sashes, etc.,	72 78	
Electrical work and supplies,	406 27	

<i>Amounts carried forward,</i>	\$589 14	\$148,046 81
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<i>Amounts brought forward,</i>	\$589 14	\$148,046 81
Hardware,	405 47	
Lumber,	437 37	
Machinery,	1 75	
Mechanics and laborers, not on pay roll,	3,418 63	
Paints, oils, glass, etc.,	531 13	
Plumbing, steam fitting and supplies,	911 27	
Roofing and materials,	34 78	
Sundries,	164 33	
		6,493 87
Farm, stable and grounds:—		
Blacksmith and blacksmith supplies,	\$283 85	
Carriages, wagons and repairs,	37 90	
Fertilizers, vines, seeds, etc.,	1,120 10	
Harness and repairs,	47 72	
Hay, grain, etc.,	3,346 89	
Labor, not on pay roll,	909 53	
Live stock:—		
Cows,	294 00	
Horses,	435 00	
Other live stock,	285 00	
Sundries,	359 29	
Tools, farm machines, etc.,	135 30	
		7,254 58
Miscellaneous:—		
Books, periodicals, etc.,	\$131 95	
Chapel services and entertainments,	485 80	
Freight, expressage and transportation,	2,635 71	
Hose, etc.,	21 66	
Ice,	84 38	
Medicine and hospital supplies,	4,889 92	
Expense for examining applicants,	1,822 63	
Medical attendance, nurses, etc.,	102 85	
Printing and printing supplies,	778 98	
Postage,	685 05	
Cuspidor supplies,	3,785 48	
Soap and laundry supplies,	2,510 10	
Stationery and office supplies,	612 50	
Sundries,	1,541 68	
Telephone and telegraph,	890 61	
Travel and expenses (officials),	1,280 20	
Water,	1,389 30	
		23,648 85
Total,		\$185,444 11
Extraordinary expense,	\$8,934 38	
Extraordinary expense, special appropriation,	26,465 72	
<i>Amounts carried forward,</i>	\$35,400 10	\$185,444 11

<i>Amounts brought forward,</i>	\$35,400 10	\$185,444 11
Sent to State Treasurer cash receipts on hand Sept. 30, 1905,	10,103 12	
Sent to State Treasurer cash receipts of current year,	72,357 46	
Cash on hand,	2,500 00	
Liabilities of 1905 (paid this year),	25,448 29	
	<hr/>	145,808 97
		<hr/>
		\$331,253 08

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$2,500 00	
Bills receivable,	5,863 74	
Unexpended appropriation for expenses, . .	1,875 77	
Total resources applicable to ordinary ex- penses,	<hr/>	\$10,239 51

Liabilities.

Salaries unpaid,	\$4,228 71	
Miscellaneous (current expenses),	11,540 83	
	<hr/>	\$15,769 54
Extraordinary expense,		347 67
		<hr/>
Total liabilities,		\$16,117 21
Balance against the institution,		5,877 70

SUMMARY OF CURRENT EXPENSES FOR FOURTEEN MONTHS ENDING
Nov. 30, 1906.

Total expenditures for fourteen months,	\$185,444 11
Unpaid bills,	15,769 54
	<hr/>
	\$201,213 65
Deducting amount of sale of supplies to patients,	6,209 72
	<hr/>
	\$195,003 93
Deducting further increase of supplies on hand Nov. 30, 1906,	2,269 45
	<hr/>
	\$192,734 48
Supplies on hand Sept. 30, 1905,	\$11,815 00
Supplies on hand Nov. 30, 1906,	14,084 45

Dividing this amount by the daily average number of patients, 338, gives an average cost for the fourteen months of \$570.22, equivalent to an average weekly cost of \$9.38.

RUTLAND, MASS., Jan. 21, 1907.

I have this day examined the accounts of the treasurer of the Massachusetts State Sanatorium, and have found them correct.

C. E. WATSON,
Expert Accountant.

The farm account is as follows : —

DR.	
Blacksmith,	\$274 85
Blankets and stable supplies,	88 67
Board of men,	1,487 50
Fertilizers and seeds,	1,062 18
Freight and miscellaneous supplies,	109 98
Grain and feed for stock,	3,472 85
Labor, not on pay roll,	1,074 78
Live stock,	904 00
Pay roll,	5,794 48
Tools, machinery and repairs,	141 65
Veterinary,	121 50
Waste from sanatorium kitchen,	200 00
Decrease of live stock on farm, as per inventories of 1905 and 1906,	419 00
	<hr/>
	\$15,151 44
Balance in favor of farm,	1,243 11
	<hr/>
	\$16,394 55
CR.	
Board of driving horses, at \$15 per month,	\$930 00
Labor for sanatorium, — putting in ice, hauling provisions from station, etc.,	1,350 34
Milk, 152,309 quarts, at \$0.04 $\frac{1}{4}$,	6,473 14
Vegetables supplied, as per following list,	1,396 75
Sold : —	
Cows,	291 50
Fertilizer,	13 00
Grease,	200 00
Hogs,	2,077 84
Loam,	5 75
Wagon,	22 00
Products of the farm on hand, as estimated Dec. 1, 1906, per list following,	3,304 23
Eleven acres of pasture land plowed and prepared for season of 1907, at \$30 per acre,	330 00
	<hr/>
	\$16,394 55

Products of the Farm delivered to the Sanatorium during the Fourteen Months ending Nov. 30, 1906.

Apples, 4 barrels,	\$6 00
Apples, crab, 1 box,	75
Beans, shell, 13 bushels, at \$1.25 to \$1.50,	18 75
Beans, wax, 22 bushels, at \$1 to \$1.25,	26 50
	<hr/>
Amount carried forward,	\$52 00

<i>Amount brought forward,</i>	\$52 00
Beets, 114 $\frac{3}{4}$ bushels, at \$0.45 to \$0.75,	73 41
Beef, at \$0.06 and \$0.07,	91 37
Cabbage, 67 $\frac{1}{2}$ barrels, at \$0.75 to \$1,	55 63
Carrots, 105 $\frac{1}{4}$ bushels, at \$0.60 to \$1,	68 38
Cauliflower, 99, at \$1 to \$1.50 per dozen,	11 97
Celery, 209 $\frac{1}{2}$ bunches, at \$0.75 to \$1.50,	272 04
Corn, 235 boxes, at \$0.40 to \$0.50,	95 93
Cucumbers, 28,135,	128 34
Leeks, 68 bunches, at \$0.50,	34 00
Lettuce, 168 dozen, at \$0.25 to \$0.50,	63 15
Pears, 7 boxes, at \$1,	7 00
Peppers, green, 9 boxes,	7 05
Peppers, 2 $\frac{3}{4}$ pecks,	54
Peas, 34 bushels,	56 25
Radishes, 7 boxes, at \$0.80,	5 60
Rhubarb, 795 pounds, at \$0.02 $\frac{1}{2}$,	19 88
Potatoes, 82 $\frac{1}{2}$ bushels, at \$0.50 to \$0.60,	47 52
Pumpkins, 196,	9 00
Spinach, 47 $\frac{1}{2}$ bushels, at \$0.25 to \$0.50,	16 26
Squash, 123 $\frac{1}{2}$ barrels, at \$0.75 to \$1,	122 75
Swiss chard, 22 $\frac{1}{2}$ bushels, at \$0.25,	5 63
Tomatoes, 124 $\frac{1}{2}$ boxes, at \$0.50 to \$1.50,	91 75
Tomatoes, green, 17 bushels, at \$0.75,	12 75
Turnips, 119 bushels, at \$0.40 to \$1,	48 55
	<hr/>
	\$1,396 75

On Hand Dec. 1, 1906.

Apples, 12 barrels, at \$2,	\$24 00
Cabbage, 3,173 pounds, at \$1 a hundred,	31 73
Carrots, 23 bushels, at \$0.65,	14 95
Wood, 50 cords, at \$4,	200 00
Turnips, 173 bushels, at \$0.35,	60 55
Ensilage, 170 tons, at \$6,	1,020 00
Hay, 100 tons, at \$18,	1,800 00
Hungarian, 2 tons, at \$15,	30 00
Rowen, 3 tons, at \$15,	45 00
Oat fodder, 4 tons, at \$12,	48 00
Rye, 40 bushels, at \$0.75,	30 00
	<hr/>
	\$3,304 23

In connection with the farm report, it is to be especially noted that the hay crop for the last year has been double that of the previous year. For several years we have been increasing our acreage under cultivation, with the expectation of being better equipped in farm buildings for carrying on the work of the farm. We believe it would pay to utilize the

lands of the institution to best advantage. In order to do so, additional equipment is necessary.

Miss Florence M. Fraser, dietitian and steward, resigned January 1, at which time a rearrangement of this work was made. Miss Ruth Montague came to the sanatorium as dietitian, and Charles E. Carroll, for several years bookkeeper here, took on the additional duties of steward. The new arrangement has been very satisfactory. Miss Mary E. Sullivan, head nurse in the men's wards, after eight years of faithful service left the sanatorium in September, to open a private sanatorium in the Berkshires. William F. Moore, having given satisfaction as chief engineer since the opening of the institution, has resigned, and will be succeeded within the next month by Walter C. Brown. Thomas N. Stone, M.D., junior assistant physician, resigned in January to accept a position at the Boston City Hospital. This place was temporarily filled by Joseph W. O'Connor and Solon W. Peters until July 1, 1906, when a rearrangement of the medical work brought about the appointment of three junior assistants, Archibald W. Hughes, M.D., Charles F. Mahoney, M.D., and John E. Runnells, M.D.

To the donors of books, magazines, newspapers, clothing for patients and all other articles, and to the various charitable organizations and individuals who have given financial assistance to many patients during the year, grateful acknowledgment is expressed.

In concluding my eighth and last report as superintendent and treasurer of the sanatorium, I desire to record my appreciation of the satisfactory services rendered by the various employees, and especially the never-failing loyalty manifested by the ex-patients who are workers, and to whom much of the success of the institution is due. As my assistant in managing the financial affairs of the sanatorium for almost seven years, Charles E. Carroll has been pre-eminently trustworthy and efficient.

I wish also to express again to the trustees my thanks for their repeated personal kindness and for their constant official support.

Respectfully submitted,

WALTER J. MARCLEY.

REPORT OF THE VISITING PHYSICIANS.

Nov. 30, 1906.

To the Trustees of the Massachusetts State Sanatorium.

LADIES AND GENTLEMEN : — Owing to the fact that the public institutions under the control of the State are now expected to make their official reports on November 30, instead of on September 30, as heretofore, our present report will cover a period of fourteen months, instead of the usual twelve, and our numbers will naturally seem larger, on this account. The percentages, however, will offer a proper basis for comparison.

Whole number of patients discharged during the fourteen months, .	1,139
Number who remained only about one month, and whose cases are therefore not considered,	298
Number taken into consideration in our report,	841

As in other years, some of these 298 were found, after a trial of three or four weeks, to have more lung trouble than could be expected to yield readily to treatment, and were therefore asked to give up their places to those whose chances of recovery seemed to be more hopeful. It may be added that on admission most of these cases were not considered very favorable by the admitting physicians, but, in the effort to avoid doing them an injustice by refusing them outright, if there was any doubt, they were given the benefit of it by a trial chance. Others left on account of homesickness, or because they were disinclined to obey the rules, or because, after trying the life three or four weeks, they came to the conclusion that they could do the same thing just as well in some other place which better suited their fancy. A few others were admitted to be put under observation, and were afterwards found not to have tuberculosis.

The following table has been prepared on the basis of our former reports, and enables one to compare the results of treatment for the past eight years and two months, in fact,

since our sanatorium was first opened for the reception of patients : —

Table of Results according to the Rutland Classification for the Fourteen Months ending Nov. 30, 1906.

	Incipient.	Moderately advanced.	Advanced.	Total.	Per Cent.
"Arrested" or "apparently cured,"	221	95	13	329	39.1
Improved,	74	234	130	438	52.1
Not improved,	2	27	45	74	8.8
	297	356	188	841	—

Per cent. of incipient cases "arrested" or "apparently cured," 74.4

Comparison of Percentages in the First, Second, Third, Fourth, Fifth, Sixth, Seventh and Eighth Years.

	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
Per cent. of "arrested" or "apparently cured" cases,	34.28+	42.35	46.12	48.31	48.97	44.8	33.7	39.1
Per cent. of all classes of "improved" cases,	39.36+	44.70	47.64	44.51+	43.00+	47.7	58.9	52.1
Per cent. of "not improved" cases,	26.04+	12.95	5.74	6.73+	7.90+	7.4	7.4	8.8

Percentage of Incipient Cases arrested or apparently cured.

	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
"Arrested" or "apparently cured,"	64.60	72.90	73.00	72.00	72.60	75.8	64.2	74.4

The next table shows the results according to the classification suggested by the National Association for the Study and Prevention of Tuberculosis at its meeting in Washington, D. C., in May, 1905, and can be compared with our last year's report under this heading. Both tables show a somewhat better result than we obtained last year.

It must be remembered, as was stated a year ago, that in all probability many of the second class in this table (the arrested cases) could have been put into the first class (the apparently cured) if the patients could have been examined and classified on the day of this report, instead of at the time of their discharge; for, as a great majority of our patients are wage earners, and dependent upon their own efforts for their daily bread, it very often happens that we cannot persuade them to finish out with us the extra three months required by this classification to complete a theoretical cure, when they consider that all their active symptoms have disappeared, and that they are practically well. Of course we ourselves feel that not only this but also still more time would be profitably spent by them in remaining to clinch the nail which apparently may have been driven home.

It must also be remembered that whereas, by our old so-called Rutland system, the words "apparently cured" and "arrested" were used synonymously, they are by the national system used to represent two separate and distinct classes, as follows: —

Apparently cured. — All constitutional symptoms and expectoration with bacilli absent for a period of *three months*, the physical signs to be those of a healed lesion.

Arrested. — Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs stationary or retrogressive; the foregoing conditions to have existed for at least *two months*.

By the old Rutland system either or both terms expressed practically the same idea that "apparently cured" now represents in the national system, except that the three-months period is not always insisted upon.

Table of Results according to the "National Association" Classification for the Fourteen Months ending Nov. 30, 1906.

	Incipient.	Moderately advanced.	Far advanced.	Total.	Per cent.
Per cent. apparently cured, . . .	50.4	17.6	3.7	-	26.16
Number apparently cured, . . .	151	62	7	220	-
Per cent. arrested,	40.1	41.2	18.1	-	35.67
Number arrested,	121	145	34	300	-
Per cent. improved,	8.9	33.2	55.3	-	29.48
Number improved,	27	117	104	248	-
Per cent. progressive, . . . . .	.6	8.0	22.8	-	8.68
Number progressive,	2	28	43	73 ¹	-
	301	352	188	841	-

¹ Including 10 deaths.

By the Rutland classification 74.4 per cent. of our incipient cases were apparently cured or arrested, and 29.4 per cent. were improved.

By the National Association classification over 50 per cent. of our incipient cases were apparently cured, over 40 per cent. arrested, and almost 9 per cent. improved.

This showing is not quite so satisfactory as our earlier reports, for the reason that, with our largely increased number of beds, we are obliged, in order to keep them filled, to take in more advanced cases than formerly. In any State, the smaller the proportion of sanatorium beds to the total population of the State the greater will be the percentage of recoveries.

Even at the risk of repeating what has often been said before, but what is not yet properly appreciated by the public at large, we cannot refrain from again calling attention to the fact that very much can be done for the really incipient cases and comparatively little for the advanced cases, as the statistics of all sanatoria show. Our reiterated plea, therefore, is that tuberculous patients be sent to us as early as possible, and long before the general public can discover their condition.

Other statistics follow : —

Of the 841 "considered" cases, the average length of stay was 5 months and 18 days.

Of these, the number who gained weight was	782
And their average gain was	13½ pounds.
Of these 841, the number who lost in weight was	59
And their average loss was	6 pounds.
The greatest individual gain in weight was	45 pounds.
All of these 841 showed bacillary sputum except	160
Of these 160 tuberculin reaction was positive in	54
Of the remaining 106 hæmorrhage occurred in	29

The new veranda for the men's infirmary has proved to be a very satisfactory and inexpensive addition, allowing patients in beds and chairs to get more thoroughly the out-door treatment, especially in warm weather. More of them could be built to advantage.

The new infirmary, built of brick, accommodating about 30 patients, mostly in single rooms, is occupied for the first time to-day. It is very attractive, and in a beautiful location.

We would like to recommend the construction of a cheap building of wood, to be occupied as an *amusement room* by those patients for whom it may be considered wise to indulge more or less in pool, billiards, shuffleboards, light ten-pins, cards, etc. A large and cheerful fireplace in a field-stone chimney would be a welcome addition.

We would also recommend the establishment of what is called a "*farm colony*," either in connection with our sanatorium and under the supervision of your Board, or in some other part of the State, as may be deemed best, where those who have been discharged as greatly improved and are able to do a certain amount of work and yet are not able to re-enter the struggle for existence out in the world unaided, may under intelligent supervision become gradually toughened to endure the strain. We now employ as helpers quite a number of ex-patients, who by doing proper work under careful supervision have received much benefit, but naturally only a comparative few can be thus aided.

We desire to state that since its opening this has been practically a temperance institution. Contrary to old customs, the use of alcohol has been abolished except in rare instances. We are sure that alcohol is one of the most common causes of tu-

berculosis, and believe that the disease is better treated without it. Even the old, time-honored cod-liver oil has fallen into disrepute with us, being given only in about one case in a hundred. Good, common food answers the purpose much better; and, while we believe in generous supplies of the most nourishing food, we do not believe in the indiscriminate and unlimited stuffing which is advocated by some, and from which we think there is now a perceptible reaction, as its disadvantages become manifest.

The rearrangement of the work of the resident physicians, and the substitution of the three new assistant physicians for the former pathologist to do laboratory and other work, last July, has in our opinion been followed by very satisfactory results, and we advise a continuance of the same system.

We desire to express our appreciation of the faithful and conscientious work of all the physicians and nurses who have been associated with us in the conduct of the sanatorium.

We regret to learn of the resignation of the superintendent, Dr. Walter J. Marcley, who since the beginning has managed the affairs of the institution with great skill and ability. We wish him great success in his new position in the west.

Respectfully submitted,

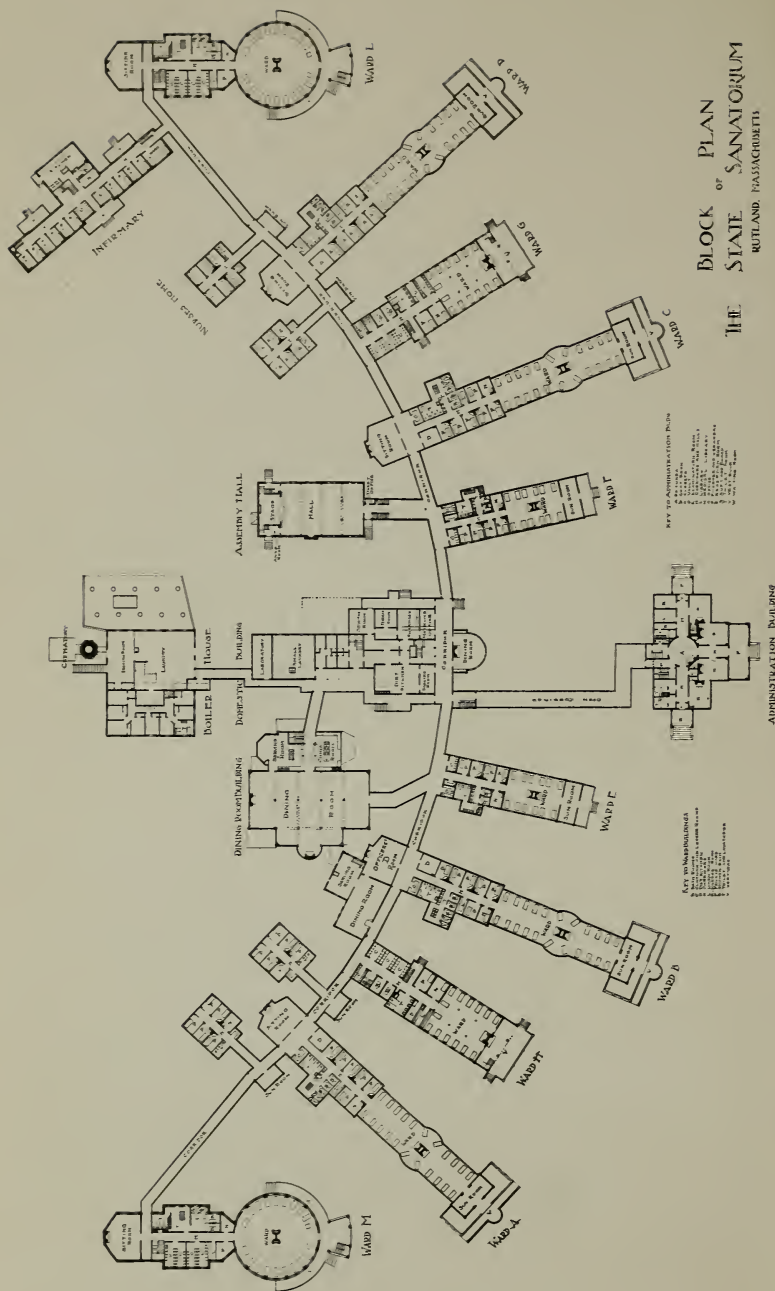
HERBERT C. CLAPP, M.D.
EDWARD O. OTIS, M.D.

LIST OF WAGES.

Examining and visiting physicians (per annum), . . .	\$1,200 00
Superintendent and treasurer (per annum), . . .	2,500 00
Matron and superintendent of nurses (per annum), . . .	1,200 00
Assistant physicians (per annum), . . .	1,200 00
Assistant physicians (per annum), . . .	200 00
Clerk and steward (per month), . . .	65 00
Chief engineer (per annum), . . .	1,100 00
Dietitian (per month), . . .	60 00
Farmer (per annum), . . .	900 00
Stenographer (per month), . . .	35 00
Nurses, day (per month), . . .	\$30 to 40 00
Nurses, night (per month), . . .	40 00
Attendants (per month), . . .	\$13 to 30 00
Supervisor, male (per month), . . .	35 00
Supervisors, female (per month), . . .	\$17 to 35 00
Clerk's assistants, . . .	20 to 25 00
Cook (per month), without living, . . .	85 00
Baker (per month), without living, . . .	75 00
Assistant cook, . . .	40 00
Engineers and firemen (per month), without living, . . .	\$50 to 60 00
Firemen (per month), . . .	30 00
Carpenter (per month), without living, . . .	70 00
Carpenter (per month), . . .	25 00
Night attendant (per month), without living, . . .	40 00
Diet cook (per month), . . .	25 00
Head laundress (per month), . . .	30 00
Storeroom man (per month), . . .	30 00
Storekeeper, . . .	35 00
Pharmacist (per month), . . .	18 00
General work, male and female (per month), . . .	\$10 to 25 00
Laundry help, male (per month), . . .	15 to 25 00
Laundry help, female (per month), . . .	15 to 20 00
Ward help, male (per month), . . .	15 and 18 00
Kitchen help, male (per month), . . .	16 to 23 50

Coachman (per month),	\$25 00
Teamsters (per month),	\$25 and 28 00
Farm help (per month),	20 to 25 00
Farm help (per month), without living,	40 00
Farm help (per day), without living,	\$1.50 to 1 75
Waiters, male (per month),	15 and 16 00
Waiters, female (per month),	13 to 18 00
Serving-room men (per month),	16 to 20 00
Serving-room girls (per month),	13 and 14 00
Diet kitchen girls,	13 to 18 00

THE BLOCK OF PLAN STATE SANATORIUM RUTLAND, MASSACHUSETTS



ELEVENTH ANNUAL REPORT
OF
THE TRUSTEES
OF THE
MASSACHUSETTS
STATE SANATORIUM
AT RUTLAND.

NOVEMBER 30, 1907.



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OFFICERS

OF THE

MASSACHUSETTS STATE SANATORIUM.

TRUSTEES.

J. P. RAND, M.D., <i>Secretary,</i>	Worcester.
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Mrs. SYLVIA B. KNOWLTON,	West Newton.
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CONSULTING PHYSICIANS.

HERBERT C. CLAPP, M.D.,	Boston.
EDWARD O. OTIS, M.D.,	Boston.

RESIDENT OFFICERS.

FREDERICK L. HILLS, M.D.,	<i>Physician, Superintendent and Treasurer.</i>
GEORGE N. LAPHAM, M.D.,	<i>Physician.</i>
P. CHALLIS BARTLETT, M.D.,	<i>Physician.</i>
B. SWAYNE PUTTS, M.D.,	<i>Physician.</i>
JOHN E. RUNNELLS, M.D.,	<i>Assistant Physician.</i>
CHARLES A. REDICK, M.D.,	<i>Assistant Physician.</i>

MARY E. THRASHER,	<i>Matron and Superintendent of Nurses.</i>
CHARLES E. CARROLL,	<i>Steward and Clerk.</i>
RUTH MONTAGUE,	<i>Dietitian.</i>
WALTER C. BROWN,	<i>Chief Engineer.</i>
FREDERICK H. DRURY,	<i>Farmer.</i>

Commonwealth of Massachusetts.

TRUSTEES' REPORT.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

The trustees of the Massachusetts State Sanatorium submit their eleventh annual report.

Important changes in administration have taken place during the past year. On Feb. 15, 1907, Dr. Walter J. Mareley, the faithful and efficient superintendent and treasurer from the opening of the sanatorium, left our service to become superintendent of the Minnesota State Sanatorium. The trustees selected to fill the position Dr. Frederick L. Hills, assistant superintendent of the New Hampshire State Hospital, who began his work immediately upon Dr. Mareley's departure. Dr. Hills has shown great industry and marked executive and administrative ability.

Massachusetts was the first State to build a sanatorium, and it is some evidence of the results accomplished at Rutland that other States are following this example. Loss of our staff is, unfortunately, the penalty of a reputation for success. Dr. Henry B. Dunham and Dr. Bayard T. Crane have both resigned to enter the service of other States about to open sanatoria. Dr. Dunham left on Nov. 1, 1907, after eight years of valuable service, to become first assistant at the New Jersey State Sanatorium, and Dr. Crane, who went to Rutland in 1904, left upon Sept. 1, 1907, to become the head of the Maryland State Sanatorium. Their places have been filled by Dr. P. Challis Bartlett and Dr. B. S. Putts.

The Honorable Council having recommended that the superintendent be placed in entire control of the sanatorium, the

visiting physicians, Dr. Herbert C. Clapp and Dr. Edward O. Otis, retired July 1, but have generously consented to serve as consulting physicians, without salary. In order to accomplish the change in the method of administration regulations for the government of the sanatorium have been adopted, placing the superintendent in full control and defining the duties of the other officers.

On Feb. 8, 1907, Mr. A. W. Esleeck resigned from the Board of Trustees, of which he was an original member, and on Aug. 1, 1907, the chairman, Dr. J. F. A. Adams, also resigned. Both had shown great interest in and devotion to their duties, and the other members of the Board learned with regret of their resignations. These vacancies were filled by the appointment of Jeremiah Smith, Jr., and Ashur Hyneman, and upon September 6 Mr. Smith was elected chairman of the Board, in place of Dr. Adams.

Some criticism has been made in the past of the number of persons employed. During the year 40 former patients, who remained after their discharge to perform light work in exchange for board, have been dismissed and their work distributed among the other employees and such patients as are pronounced by the medical staff fit for very light work. The trustees are examining the list of employees very carefully to see if a reduction is possible. This examination is not yet finished.

On Oct. 1, 1906, the contract with the town of Rutland for a water supply expired. This contract was originally made for a term of ten years, at a flat rate of \$1,000 per year, with no provision for any increase corresponding to an increase in the size of the sanatorium, which has doubled within that period. After negotiations extending over almost a year, a new contract has been made for two years from Oct. 1, 1906, by which the sanatorium installs meters and pays 12 cents a thousand gallons for water. Under this arrangement the annual expense for water will be about \$2,000.

The out-patient department, which was established two years ago, upon suggestion of the State Board of Charity, is still maintained, but has not been well patronized.

The infirmary, which accommodates 24 patients, was opened in December, 1906, and has been of great use. The construction of the new piggery, the recreation pavilion and the piazzas, for which appropriation was made by chapter 98 of the Resolves of 1907, is proceeding under the direction of our own employees. The trustees have voted to make use of the appropriation of \$3,500 for the construction of a farmer's cottage, granted by chapter 83 of the Resolves of 1906. Plans have been prepared by William G. Preston, Esq., and construction will be begun immediately.

The building of a new cow barn is an absolute necessity. In the treatment of tuberculosis a supply of pure milk is of the greatest importance, and 800 quarts of milk are used at the sanatorium daily, a substantial part of which comes from the farm. The barn is so old that it is in great danger of falling down, and it is not a fit place to keep cows whose milk is supplied to the sanatorium. Upon testing the herd in October for signs of tuberculosis 20 out of 43 cows were found to be in such a condition as to make it advisable to remove them from the herd. Plans, specifications and estimates for a new cow barn, to cost \$10,000, have been prepared and submitted to the State Board of Charity, as required by chapter 520 of the Acts of 1907, and have been approved by that Board, and the trustees ask for such an appropriation.

The trustees regret to be obliged to report a deficit for the current year of \$20,578.15, for which a special appropriation is necessary. There are several causes for this deficit. The increased quantity and cost of the food used, the additional expense caused by the infirmary, and the fact that the appropriation of last year was some \$7,000 less than the estimates called for, have all contributed. There is an increase in the supplies on hand and paid for, to be carried over to next year, amounting to \$3,200, which should be credited against this deficit.

The estimates for the coming year are as follows:—

For maintenance,	\$185,000 00
For new cow barn,	10,000 00
For other special matters,	23,375 00

The estimate for maintenance is made up as follows:—

Food,	\$81,470 72
Salaries and wages,	51,525 84
Heat, light and power,	15,653 07
Repairs and improvements,	6,682 43
Farm,	6,114 14
Furnishings,	4,260 60
Miscellaneous (includes water, medical and hospital supplies, and all other expenses),	19,293 20
	<hr/>
	\$185,000 00

These estimates are based upon the actual expenses of the past year. The cost per capita has been \$10.07, which is much greater than the cost at any other institution of this Commonwealth. This is inevitable, since the treatment of the earlier stages of tuberculosis consists of fresh air, sunlight, nourishing food in liberal quantities and limited exercise. The cost of maintenance at the sanatoria of other States for the past year is not yet available, but the figures for 1906 show that this cost was \$8.91 per week at the New York State Hospital for Tuberculosis, \$10.30 at the Rhode Island State Sanatorium, and \$12.58 at the Gaylord Farm Sanatorium, which, though not a State institution, receives aid from the State of Connecticut. The cost at Rutland for that period was \$9.38. The trustees believe that the institution cannot fulfil the object for which it was established on an appropriation smaller than the estimates given above.

The special appropriations asked for are much needed and most of them are matters of absolute necessity. They are composed of the following items: Hennerly (\$1,200) and equipment (\$1,800); enlargement of filter-beds (\$1,000); road to Muschopauge station (\$5,000); repair of outside walls (\$2,000); painting all outside woodwork and roofs (\$2,500) and wards (\$2,000); elevator in infirmary (\$2,000) and operating-room (\$1,200); recreation pavilion for women patients (\$2,000); metallic drying-room (\$700); improvement of grounds (\$500); linoleum for corridors (\$500) and watchman's clock system (\$400).

One thousand eggs a day are used, and we need a hennerly to supply part of these. The filter-beds are inadequate, not having been enlarged, while the institution has doubled in size. Every winter they overflow, and claims for damages are made. All the supplies and most of the visitors must travel over a rough country road from the station, and a new and properly built road would save money for the State and make a visit to the sanatorium much less of a hardship for the relatives and friends of the patients. The repairs asked for are necessary to preserve the buildings, the present appearance of which has become a subject of comment by visitors. The infirmary ought to be equipped with an elevator, upon which patients could be taken to the second floor, and with an operating room. A metallic drying room should be installed in the laundry as a precaution against fire. The appropriation for improvement of the grounds has been made annually for some years and the results are apparent to visitors.

JOHN PRENTICE RAND.

ALBERT C. GETCHELL.

FANNY S. RUSSELL.

SYLVIA B. KNOWLTON.

JEREMIAH SMITH, JR.

ASHUR HYNEMAN.

WELLINGTON E. PARKHURST.

SUPERINTENDENT'S REPORT.

To the Trustees of the Massachusetts State Sanatorium.

I have the honor to submit the following report for the year ending Nov. 30, 1907.

At the beginning of the year, Dec. 1, 1906, there were 332 patients in the sanatorium, 175 men and 157 women. There were 948 patients admitted during the year, 477 of whom were men and 471 were women. Of those discharged during the year 469 were men, 470 were women. There were remaining in the sanatorium on Nov. 30, 1907, 183 men and 158 women, — a total of 341 patients. The daily average number of patients for the year was 335. The average monthly population was lowest in June, 327, and highest in October, 341.

Statistical tables, giving in detail information regarding the admissions and discharges, will be found at the end of this report.

APPLICATIONS FOR ADMISSION.

During the year 1,968 applicants were examined for admission. Of this number, 735 were accepted, 503 not accepted and 730 deferred. There were 666 re-examinations, 184 of which were accepted, 166 not accepted and 316 deferred. The total number of examinations for admission was 2,634. Of this number, 1,845, or 70 per cent., were made at the Boston office. The applicants at this office come from the eastern part of the State and represent practically every city and town in Essex and Norfolk counties and the southern part of Middlesex and the northern part of Plymouth counties. Nearly half of the remaining number of examinations were made at Rutland, 93 at the Worcester City Hospital, 92 in Fall River, 91 in Lowell, 77 in Springfield, 37 in Northampton, 15 in Greenfield, 32 in Pittsfield and 6 at the Worcester Hahnemann Hospital.

ADMISSIONS.

Table No. 3 shows that 347, or 36.6 per cent. of the admissions were from Suffolk County. This is accounted for by the fact that 37.3 per cent. of the applications were from residents of Boston.

In the table showing the nativity of patients we find that 41.88 per cent. were of foreign birth. Of the foreign born, 28.9 per cent. were natives of Canada, 21.5 per cent. of Ireland, 16 per cent. of Russia, 6.7 per cent. of Sweden and 6.5 per cent. of England. When we come to consider those born in America of foreign parentage we find that in 55.6 per cent. the paternal ancestry was Irish, in 8.4 per cent. English and 18.3 per cent. Canadian. The paternal nativity one generation removed was American in 71.2 per cent. of all cases admitted.

The age of those admitted was under thirty years in 62 per cent. of the cases. Patients under fourteen years of age are not admitted to the sanatorium. Quite frequently application is made for the admission of children between the ages of ten and fourteen years, and for whom the sanatorium has no proper accommodations. If these younger children were taken separate quarters and some school facilities would be needed for them. Indeed, it is debatable whether it is wise to admit children under sixteen years of age, as is done at present. They are obliged to mix in the wards with the older patients; they are restless under the enforced rest and the restraint necessary in an institution of the size of this; they are generally unappreciative of the seriousness of the disease and the necessity of conforming to strict discipline. Experience has shown that they relapse quickly when freed from institution care because of negligence in following up the treatment.

It has also been found that patients over fifty years of age are not good subjects for treatment here. They withstand the cold poorly, and are, as a rule, lacking in the vitality and recuperative powers sufficient to lead such an enforced out-of-door life as is required of our patients. Occasionally they are admitted for a short period, more with the hope of giving them such an understanding of the treatment that they can carry it

out more successfully at home than of effecting an arrest of the disease.

The average age of the men discharged was twenty-seven years, eleven months, and of the women was twenty-seven years, seven months.

The table of occupations shows that 87 per cent. of the patients were engaged in an in-door occupation at the time of the onset of the disease. Of these in-door workers, 20 per cent. were mill and factory employees. Among the women admitted 47.5 per cent. were engaged in housework, either as housewives or domestics. Of the men admitted 23 per cent. worked out of doors.

MEDICAL WORK.

In the medical work of the sanatorium during the past year we have based our selection of cases and the tabulation of results upon the classification adopted by the National Association for the Study and Prevention of Tuberculosis, viz.: —

Upon Admission.

Incipient (Favorable). — Slight initial lesion in the form of infiltration, limited to the apex or a small part of one lobe. No tuberculous complications. Slight or no constitutional symptoms (particularly including gastric or intestinal disturbance or rapid loss of weight). Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially after rest. Expectoration usually small in amount, or absent. Tubercle bacilli may be present or absent.

Moderately Advanced. — No marked impairment of function, either local or constitutional. Localized consolidation moderate in extent, with little or no evidence of destruction of tissue; or disseminated fibroid deposits. No serious complications.

Far Advanced. — Marked impairment of function, local and constitutional. Localized consolidation intense; or disseminated areas of softening; or serious complications.

Upon Discharge.

Unimproved. — All essential symptoms and signs unabated or increased.

Improved. — Constitutional symptoms lessened or entirely absent; physical signs improved or unchanged; cough and expectoration with bacilli usually present.

Arrested. — Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs stationary or retrogressive. The foregoing conditions to have existed for at least two months.

Apparently Cured. — All constitutional symptoms and expectoration with bacilli absent for a period of three months; the physical signs to be those of a healed lesion. All constitutional symptoms and expectoration with bacilli absent for a period of two years under ordinary conditions of life.

The length of time mentioned is, of course, somewhat arbitrary, but is intended to cover the cases which frequently occur, where the patients leave a sanatorium for various reasons, contrary to advice, after a stay of a few weeks, although all active symptoms may have ceased completely soon after entrance.

Whole number of patients discharged during the year 939, — men, 469; women, 470. Number who remained one month or less, and whose cases are therefore not considered, 233, — men, 103; women, 130. Number considered in this report 706, — men, 366; women, 340.

The not-considered cases include those admitted for trial and found upon observation to be unsuitable, those who left within one month because of unwillingness to submit to the prescribed routine, those who responded negatively to tuberculin, those who were homesick or dissatisfied, and those who preferred to carry out the treatment at home or elsewhere.

It has been thought best to discontinue the tabulation of results based on the old Rutland classification because of the widely different meaning of the terms "apparently cured" and "arrested" as used in the National Association classification and in that known as the Rutland system. This inevitably led to confusion in the minds of those not perfectly familiar with the two systems, therefore both for the sake of clearness and

because of a desire to make our classification as far as possible uniform with that of the other sanatoria, the older method has been dropped from the report.

It is to be noted that our tables continue to show a large proportion of advanced cases, in spite of the effort constantly being made to obtain those in the earlier stages, — the curable stages of the disease. It would seem that much yet remains to be done to bring home to the people of the Commonwealth the great importance of the early recognition of tuberculosis, and the imperative necessity of the immediate institution of sanatorium treatment if a cure is to be effected. The fatal consequences of temporizing with this disease are well recognized by the medical profession, and by it should be impressed upon the people.

The anti-tuberculosis campaign so vigorously carried on throughout the community in recent years appears, unfortunately, to have given the impression to the general public that tuberculosis is curable, and not to have made it clear that it is the early stages only of tuberculosis that are curable. To be sure, advanced cases can be and are materially benefited, often arrested and sometimes cured, as our results well demonstrate, but the fact still remains that it is the early case, with the disease in its incipient or first stages, that is the curable case, and it is for this class that the sanatorium should make its first and most strenuous efforts.

This year 39 per cent. of the considered cases are classified as incipient, 42 per cent. as moderately advanced and 19 per cent. as far advanced. The results of treatment compare favorably with those obtained in former years. Of 276 incipient cases discharged, 56.16 per cent. were apparently cured, 26.8 per cent. were arrested and 16.32 per cent. improved. There were 295 cases classified as moderately advanced. Of these, 12.54 per cent. were apparently cured, 26 per cent. were arrested, 51.52 per cent. improved and 9.84 per cent. unimproved. The far-advanced cases discharged were 135 in number, classified as follows: apparently cured, 3.7 per cent.; arrested, 10.39 per cent.; improved, 60.79 per cent.; not improved, 25.12 per cent. Taking all classes of cases together, 27.8 per cent. were apparently cured, 23.5 per cent. arrested, 39.5 per cent. im-

proved and 9.2 per cent. not improved. The latter class includes 11 who died. The causes of death and the length of the sanatorium residence of these cases are given in the statistical summary.

The weight records of 706 considered cases were as follows: number gaining weight, 664, — men, 349; women, 315; average gain, men, 10.7 pounds; women, 9.5 pounds; number losing weight, 42, — men, 17; women, 25; average loss, men, 6.4 pounds; women, 4.5 pounds; greatest gain in weight, woman, 50 pounds; man, 42½ pounds.

Tubercle bacilli were found in the sputum of 476, or 67.4 per cent. of the considered cases during their sanatorium residence. The sputum of 52 per cent. of the patients admitted had not been examined before entrance, and of those examined 247 were positive and 98 negative. Of the total number examined while in the sanatorium 232 were negative. There were 28 cases having no sputum at any time during their sanatorium residence.

Tuberculin was given for diagnostic purposes with a positive reaction in the cases of 61 men and 30 women. During the year 62 cases were given tuberculin as a therapeutic agent. All of these cases were moderately advanced or advanced, and such cases were selected for the treatment as had been for some weeks or months in the sanatorium and were not making any definite progress. No very striking results have been noted from the use of tuberculin. In the larger proportion of those treated the course of the disease did not appear to be definitely affected, but with several patients a more marked gain was noticed at the beginning of the treatment and convalescence appeared to be hastened by its use. We are about to undertake some opsonic and blood examination work in connection with the use of tuberculin, and hope to obtain by these means some guide to its more rational use, believing that its administration is of established value in properly selected cases.

The average length of stay of the 706 considered cases was 5 months, 10 days. As a rule, those patients who improve would do well to remain a somewhat longer time at the sanatorium. A patient is not discharged as apparently cured until after a lapse of three months without bacilli and constitutional

disturbance, or as arrested until two months after the disappearance of constitutional symptoms, the physical signs remaining stationary or retrogressive during this period. Many are impelled by the necessity of earning a livelihood to return home before these conditions have existed for this length of time, and at a stage when a stay of two or three months longer should be made to diminish the probability of a relapse. For such persons, and for the assistance of others unable to find suitable residence or occupation after discharge, some system of after-care is urgently needed. Much more lasting good would be done these patients could they be given a fairly remunerative employment and kept under observation and a definite degree of control for a variable period following their discharge. A farm colony could be established in connection with the sanatorium, and would doubtless attract and hold some patients, but for the greater part the call of the city is too alluring and simple country joys make no appeal. For these, after-care must be followed out at home.

The patients who return to the city to their former place of residence and to their former occupation are those especially prone to relapse. The Boston Association for the Relief and Control of Tuberculosis has for several years followed up the discharged Boston patients through its district nurses, and not only has sent us reports of their condition subsequent to discharge, but has done much valuable work of a social-service nature among our discharged patients. This association has expressed through its secretary, Mr. Walter E. Kruesi, a desire to co-operate with the sanatorium in the extension of this work, so that it will take in all of our discharged patients. I believe that this is a phase of the anti-tuberculosis work which we should take up with earnestness because of its far-reaching sociological significance. A social-service worker resident at the sanatorium would be able to get into close touch with the patients who are ready for discharge, assist them in finding suitable employment, arrange with their friends for their home care, direct and aid them in selecting a suitable place to live, instruct them in matters pertaining to home sanitation, and in a variety of ways prove serviceable to the majority of discharged patients, as well as to those who are found unsuitable for admission, but are in need of aid in selecting and carrying out

the right method of living. Work of this nature is being successfully carried on in connection with some of the English sanatoria, and the field is now ripe for the workers along similar lines here.

NON-CITIZEN APPLICANTS.

By chapter 222 of the Acts of 1907, which became operative on March 20, it is required that in the admission of patients to the sanatorium preference shall be given to those applicants who are citizens of the Commonwealth. In answer to an inquiry from your Board relative to the application of this act the Attorney-General of the Commonwealth replied as follows:—

I think the law as it stands to-day authorizes you to admit (1) incipient cases where the persons are citizens; (2) advanced cases where the persons are citizens, and preference must be given to these two. I see no objection to your making a rule that you will not admit far-advanced cases. If you should do that you can then, after having provided for the incipient and advanced cases where the applicants are citizens, admit, first, incipient cases where the applicants are not citizens and then advanced cases where the applicants are not citizens.

In other words, my conclusion is that you would be warranted in giving preference (1) to incipient cases of citizens, (2) to advanced cases of citizens, (3) incipient cases where the applicants are not citizens, and (4) advanced cases where the applicants are not citizens.

We have rigidly adhered to this interpretation of the law, and have deferred all non-citizen applicants until such time as there were no applicants of the first and second classes. Many of the applicants thus deferred have been residents of the Commonwealth for ten, fifteen or more years, and some of them are property owners. Their admission has been delayed for periods ranging from a week to two or three months, and many have not reapplied after their first application.

A woman may be naturalized as a citizen in the same way as a man. Women, however, very seldom take out naturalization papers, and it has therefore been necessary to defer the admission of many young unmarried women who have been for several years residents of the State but are not naturalized. Of the applicants deferred by the action of this law 85 were in the incipient stages of the disease, many of them urgently in

need of sanatorium treatment. Several who lived in Boston were temporarily cared for at the Day Camp at Mattapan, but the majority of them have been compelled to remain at home, under conditions not only favoring an extension of tuberculous infection, with the danger of a curable case running on to an incurable stage, but also increasing the probability of spreading the infection to other members of the family.

The most important function of the sanatorium being to cure the curable, and the incipient cases being those most susceptible of cure, it would seem a far wiser policy for the State to accept at once all incipient applicants who are residents, irrespective of citizenship. I would urge most strongly the amendment of this law so as to permit the acceptance of applicants as follows: first, incipient cases of citizens; second, incipient cases who are not citizens; third, moderately advanced cases who are citizens, and fourth, moderately advanced cases who are not citizens.

EMPLOYEES.

The number of employees upon our pay roll has been and is still a source of much criticism. I feel that this arises in part from the comparison of our pay roll with that of other State institutions which are doing work entirely different in character and purpose, and many of whose inmates are physically strong and capable of doing a good day's work under supervision.

The population of our wards is constantly changing. The average duration of residence is short, and most of the patients leave the sanatorium as soon as they are able to do work of any definite value. For several years it was the policy of the trustees to allow patients to remain after discharge for an indefinite period as board workers, doing four and one-half hours' work daily, with maintenance but without pay. In June this policy was discontinued, and resulted in a dismissal of 45 patients who had been allowed to remain for periods varying from a few weeks to several years. These places have been filled to a large extent by patients who are able to work four and one-half hours daily while under treatment. As a result of this change there has been a slight increase in the number of paid employees, which, it is expected, can soon be reduced by the gradual employment of more patient labor.

Upon the passage of the eight-hour law in April an effort was at once made to have it operative in all departments of the sanatorium, and in accordance with the law we had our work adjusted upon a forty-eight-hour-week basis up to the time of its repeal, about July 1. This resulted in an increased number of employees in some departments during the spring months, and since the repeal of the law it has taken some time to readjust our force. It has since been our policy, so far as possible, to allow each employee one day off each week.

In considering our pay roll it should be remembered that a large number of our employees are ex-patients, and are employed on what is practically an eight-hour basis. The policy of employing ex-patients has been followed for several years, not only because it is often difficult to get well people to engage in sanatorium work, but because we believe it to be a good policy for the State to employ these people where they can work in a good sanitary environment, rather than to send them back to their former occupations and a possible recurrence of the disease. We recognize that oftentimes they cannot work as many hours or as arduously as those who have never had tuberculosis, consequently the work has been adjusted on an eight-hour basis. We are now introducing a scheme for a more systematic supervision of our working force, and we hope to be able to economize in paid labor by the extension of our system of utilizing the work of patients.

LABORATORY.

The sanatorium, with its large amount of clinical material, offers a rich field for research work, which it is hoped we may be able to cultivate during the coming months. More exhaustive study of the cases should be made by recently developed laboratory methods, and it is believed that with a larger and better equipped laboratory we may be in a position to do work of considerable clinical and scientific value. This enlargement of the laboratory can be made at little expense by utilizing a part of the old laundry and adding somewhat to our present equipment.

INFIRMARY.

A new infirmary has been in operation during the year and has proved adequate for our needs the greater portion of the time. Some necessary alterations were made in the bath rooms in the spring, and an office provided for the nurse on each floor. Since June all of the sick patients have been cared for in this building, the men occupying the first floor and the women the second floor. The original plans of the building called for an elevator running from the basement to the second floor. Many times during the year we have appreciated the need of this, especially in the transfer of hemorrhage patients to the women's wards. At present it is necessary to carry the patient on a stretcher up a winding stairway, with the aid of several men, and the danger of this procedure to a patient in such a condition is often extreme. We have obtained estimates, and find that such an elevator as is needed can be installed at a cost not to exceed \$2,000.

OUT-PATIENT DEPARTMENT.

The out-patient department has been continued during the year and receives an average of eight or ten calls weekly. There are generally about 100 patients in Rutland outside of the sanatorium, in the boarding-houses and private sanatoria. Most of these are now under medical supervision, and the charges made for board include the services of a physician on his regular visit twice weekly. There is, therefore, less occasion than formerly for patients in the outside houses to come to the sanatorium as out-patients, and except for the few who come from houses not under medical supervision most of the work in this department consists of laryngeal examinations and treatments.

IMPROVEMENTS.

A recreation pavilion, for which an appropriation of \$2,000 was made at the last session of the Legislature, is now being erected in front of ward H. This is to be a glass enclosed building, 24 feet by 36 feet, and will contain a large fieldstone fireplace. It will be equipped with pool table, card tables and other games, and will offer a much needed source of entertainment to the men patients.

Covered verandas have been erected along the south side of the corridor, between wards E and B and wards F and C. Additional verandas are to be built on wards A and D during the winter.

A room has been partitioned off in the old laundry building to make an office for the dietitian, whose former office in the old administration building has been converted into a telephone room and provided with a booth for the use of the patients.

A large and attractive room at the center, formerly used as a dining room, has been fitted up as a reception room for patients. Here all new patients are now received and their preliminary history taken. Here, also, patients can meet and visit with their friends.

Considerable grading has been done about the new infirmary and the wards of the east wing. This work will be completed in the spring, walks made from the women's wards to the main driveway and trees and shrubbery planted. There is yet much work to be done upon the grounds, and we hope for an annual appropriation for this purpose.

The new piggery, for which \$1,000 was appropriated by the last Legislature, has been erected on a site at some distance from the highway and so situated as not to be objectionable to our neighbors.

FARM.

The late spring and cold weather during the early summer, together with the eight-hour law in operation during May and June, seriously interfered with our farm work, and as a result the products of the farm, with the single exception of the hay crop, are considerably less than in other years.

In October we tested our cows for tuberculosis, and found 20 out of a herd of 43 which gave a positive reaction to tuberculin. These cows were at once isolated and subsequently killed and the stable disinfected. Our present barn is old, unsanitary and unsafe. There is urgent need for the erection of a new and modern cow barn before any attempt is made to replenish our herd.

REPAIRS AND IMPROVEMENTS NEEDED.

The buildings comprising the original plant of the sanatorium are badly out of repair, and will require a large outlay during the coming year to put them into proper condition. These were frame structures, covered with stucco applied upon expanded metal lathing. The latter has rotted away, allowing the stucco to fall off over large areas. Repairs have been made upon this from time to time, but it is now imperative that a large part of this stucco work be removed and replaced by cement applied on galvanized wire lathing over the outside wall of all the older buildings. There are 3,000 square yards of this material to be replaced, at an estimated cost of \$1.25 per square yard, and 1,845 feet of base at 25 cents per foot, making a total estimated expense of \$4,211. We desire to do one-half of this work this year, and are therefore asking for an appropriation of \$2,000 for this purpose.

The verandas on wards A, B, C, D and E are badly out of repair, the floor timbers are rotting away, so that all of these verandas are in an unsafe condition and in need of rebuilding, at an estimated cost of \$575.

The roofs and exterior woodwork of all the buildings except the power house and the infirmary need painting, also the woodwork and walls in many of the wards. The cost of this is estimated at \$4,500.

We need an appropriation of \$500 to provide linoleum for the corridor floors, which are badly worn and difficult to keep in proper condition without this protection.

We are now using an old wooden dry room in the old laundry building. This is a constant source of danger to the whole institution, and should be replaced by a new metallic dry room, which can be built in the new laundry at a cost of \$700.

There is need of a small operating room in the infirmary. The unfinished room on the second floor over the diet kitchen is of sufficient size to allow of the making of an operating room, together with a recovery room and a room for a nurse or doctor, as may be required. The estimated cost of this improvement, including furnishing, is \$1,200.

Provision should be made for the erection and stocking of a hennery, to supply fresh eggs to the sanatorium. This should be in charge of a man qualified for the work and capable of supervising and instructing patients in the profitable conduct of the business. A hennery having a capacity of 1,800 pullets can be built and equipped at an estimated cost of \$3,000.

A watchman's clock should be installed, with stations at various points throughout the wards and other buildings. At present, should any serious accident occur at night there is no way to prove the whereabouts or vigilance of the night watchman at any hour. The cost of installing the clock and the necessary number of stations is estimated at \$400.

The filter-beds are inadequate for the proper disposal of sewage. They have not been enlarged since the opening of the sanatorium. An appropriation of \$1,000 is asked for this purpose.

A pavilion for women patients, similar in size and architecture to the men's pavilion, should be erected in front of ward G. An appropriation of \$2,000 is requested for this purpose.

Previous mention has been made of the necessity for an elevator in the infirmary and of the immediate erection of a new cow barn. Plans for the latter have been made, and estimates obtained for a cow barn with a capacity of 60 head of cattle and for the storage of 100 tons of hay, which can be erected for \$10,000.

We again ask for an appropriation of \$5,000 for a new road to Muschopauge station, and \$500 for further improvement of the grounds.

PER CAPITA COST.

The per capita cost for the year was \$10.07, — an increase of 69 cents over the cost of last year. This was due to the high cost of living, — increased expenditures required for nearly all food and other supplies, — as well as to an increase in the amounts of some food supplies; namely, meat, butter and eggs, demanded by the liberal dietary, which is an important factor in the treatment of tuberculosis.

MEDICAL SERVICE.

Dr. Charles F. Mahoney and Dr. Archibald W. Hughes left the sanatorium April 1, after several months of efficient and faithful service, the former to accept a position as interne at the Long Island Hospital at Boston, and the latter to become resident physician at the Pine Ridge Camp, Providence, R. I. Dr. Bayard T. Crane resigned August 11 to accept the position of superintendent at the Maryland State Sanatorium. Dr. Crane had given nearly three years of valuable service to the sanatorium and carries with him our best wishes for success in his new field. On October 23 Dr. Henry B. Dunham resigned, having been appointed first assistant physician of the New Jersey State Sanatorium. He was a most faithful and worthy officer, and his long experience on the staff of the sanatorium and his skill as a diagnostician make us deeply regret his departure. Dr. P. Challis Bartlett and Dr. B. S. Putts have been appointed to fill the vacancies on the staff, and Dr. C. A. Redick has been appointed interne.

On the first of August Mr. Charles E. Carroll, who has rendered the sanatorium most valuable service as bookkeeper for several years, and more recently as buyer, was appointed steward.

To the many friends of the sanatorium who have generously remembered us with donations of books, magazines, newspapers, warm articles of clothing and other contributions for the patients we express our grateful acknowledgments.

It gives me pleasure to commend the officers and employees for their faithfulness to duty and for the zeal so genuinely manifested for the welfare of the institution. I sincerely appreciate the cordial co-operation given me by the officers and the heads of departments during the past months.

To your honorable Board I am deeply grateful for your helpful counsel and support.

Respectfully submitted,

FREDERICK L. HILLS,
Superintendent.

TREASURER'S REPORT.

To the Trustees of the Massachusetts State Sanatorium.

The following is a statement of the receipts and expenditures of the Massachusetts State Sanatorium for the year ending Nov. 30, 1907:—

RECEIPTS

Cash on hand Dec. 1, 1906, as per tenth annual report, . . .	\$2,500 00
Received from State Treasurer and Receiver-General on current expense appropriation,	161,500 00
Received from State Treasurer and Receiver-General on account current expense appropriation 1906,	4,375 77
Received from State Treasurer and Receiver-General deficit appropriation on current expense 1906,	11,741 44
Received from State Treasurer and Receiver-General on special appropriation,	1,950 64
Received from patients for board and treatment,	44,526 55
Received from cities and towns for support of patients, . .	3,603 06
Received from State soldiers' relief and from charitable associations for support of patients,	4,531 64
Received from patients for hospital and cuspidor supplies, .	2,034 54
Received from patients for telephone and telegraph, . . .	183 73
Received from patients for freight and express,	32 38
Received from patients for stationery and office supplies, .	144 61
Received from patients for sundries,	255 88
Received from sale of farm products,	1,526 38
Received from sale of grease,	1,907 64
Received from sale of other merchandise,	291 18
Received as interest on bank balance,	83 39
	\$241,188 83

EXPENDITURES.

Salaries and wages,	\$47,383 96
Food:—	
Butter,	\$5,678 77
Butterine,	90 20
Beans,	6 19
Bread and crackers,	86 47
Cereals, rice, meal, etc.,	557 16
Cheese,	203 50
Eggs,	9,364 78
	\$15,987 07
<i>Amounts carried forward,</i>	<i>\$47,383 96</i>

<i>Amounts brought forward,</i>	\$15,987 07	\$47,383 96
Flour,	1,470 55	
Fish,	1,929 15	
Dried and fresh fruit,	2,771 87	
Meats,	38,436 62	
Milk,	6,260 87	
Molasses and syrup,	63 77	
Sugar,	1,932 45	
Tea, coffee, broma and cocoa,	966 22	
Vegetables,	2,784 55	
Sundries,	320 35	
	<hr/>	72,923 47
<i>Furnishings: —</i>		
Beds, bedding, table linen, etc.,	\$1,657 16	
Brushes, brooms, etc.,	329 89	
Carpets, rugs, etc.,	13 24	
Crockery, glassware, cutlery,	684 10	
Furniture and upholstery,	492 86	
Kitchen furnishings,	491 68	
Wooden ware, buckets, pails, etc.,	120 14	
Sundries,	70 50	
	<hr/>	3,859 57
<i>Heat, light and power: —</i>		
Coal,	\$13,651 46	
Oil,	218 21	
Sundries,	425 51	
	<hr/>	14,295 18
<i>Repairs and improvements: —</i>		
Brick,	\$136 00	
Cement, lime and plaster,	44 59	
Doors, sashes, etc.,	9 63	
Electrical work and supplies,	373 44	
Hardware, iron, steel, etc.,	255 81	
Lumber,	255 21	
Paints, oils, glass, etc.,	441 83	
Plumbing, steam fittings and supplies,	599 03	
Roofing and materials,	9 99	
Mechanics and laborers (not on pay roll),	2,054 97	
Sundries,	3 75	
	<hr/>	4,184 25
<i>Farm, stable and grounds: —</i>		
Blacksmith and supplies,	\$132 15	
Carriages, wagons, etc., and repairs,	76 55	
Fertilizers, vines, seeds, etc.,	827 31	
Hay, grain, etc.,	2,592 90	
Harnesses and repairs,	61 33	
	<hr/>	
<i>Amounts carried forward,</i>	\$3,690 24	\$142,646 43

<i>Amounts brought forward,</i>	\$3,690 24	\$142,646 43
Cows,	50 00	
Other live stock,	256 19	
Labor (not on pay roll),	656 54	
Tools, farm machines, etc.,	47 72	
Sundries,	160 31	
		4,861 00
Miscellaneous: —		
Books, periodicals, etc.,	\$15 85	
Chapel services and entertainments,	200 00	
Freight, expressage and transportation,	1,439 32	
Hose, etc.,	19 00	
Ice,	113 39	
Labor (not on pay roll),	121 12	
Medicines and hospital supplies,	2,926 13	
Examination of applicants,	1,564 51	
Postage,	516 37	
Printing and printing supplies,	428 91	
Cuspidor supplies,	2,760 45	
Soap and laundry supplies,	2,258 81	
Stationery and office supplies,	482 87	
Travel and expenses (officials),	818 46	
Telephone and telegraph,	665 10	
Water,	651 28	
Sundries,	581 05	
		15,562 62
		\$163,070 05
Extraordinary expense,	\$929 95	
Extraordinary expense, special appropriation,	1,950 64	
Sent to State Treasurer, cash receipts of current year,	54,075 60	
Cash on hand, to be sent to State Treasurer,	5,045 38	
Liabilities of 1906 (paid this year),	16,117 21	
		78,118 78
		\$241,188 83
LIABILITIES.		
Salaries unpaid,		\$4,456 15
Food: —		
Butter,	\$1,167 11	
Butterine,	32 70	
Bread and crackers,	26 63	
Cereals, rice, meal, etc.,	144 05	
Cheese,	57 91	
Eggs,	1,532 24	
Flour,	31 00	
Fish,	428 23	
<i>Amounts carried forward,</i>	\$3,419 87	\$4,456 15

<i>Amounts brought forward,</i>	\$3,419 87	\$4,456 15
Fruit,	451 72	
Meats,	5,130 11	
Milk,	1,571 53	
Molasses and syrup,	1 90	
Sugar,	71 95	
Tea, coffee, etc.,	461 62	
Vegetables,	73 03	
Sundries,	7 81	
	<hr/>	11,189 54
Furnishings: —		
Beds, bedding, table linen, etc.,	\$110 48	
Brushes, brooms, etc.,	25 75	
Crockery, glassware, cutlery, etc.,	131 50	
Furniture and upholstery,	41 11	
Kitchen furnishings,	50 27	
Wooden ware, buckets, pails, etc.,	10 20	
Sundries,	2 10	
	<hr/>	371 41
Heat, light and power: —		
Coal,	\$884 55	
Oil,	18 98	
Sundries,	32 13	
	<hr/>	935 66
Repairs and improvements: —		
Cement, lime and plaster,	\$23 00	
Doors, sashes, etc.,	3 70	
Electrical work and supplies,	2 96	
Hardware, iron, steel, etc.,	50 18	
Lumber,	26 62	
Paints, oils, glass, etc.,	81 69	
Plumbing, steam fitting and supplies,	52 99	
Roofing and material,	68 17	
Mechanics and laborers,	189 50	
Sundries,	39 80	
	<hr/>	538 61
Farm, stable and grounds: —		
Blacksmith and supplies,	\$17 75	
Carriages, wagons, etc., and repairs,	7 00	
Fertilizers, vines, seeds, etc.,	46 25	
Hay, grain, etc.,	196 98	
Labor (not on pay roll),	59 83	
Tools, farm machines, etc.,	1 85	
Sundries,	31 26	
	<hr/>	360 92
Miscellaneous: —		
Books, periodicals, etc.,	\$8 00	
Chapel services and entertainments,	340 00	
Freight, expressage and transportation,	172 06	
	<hr/>	
<i>Amounts carried forward,</i>	\$520 06	\$17,852 29

<i>Amounts brought forward,</i>	. . .	\$520 06	\$17,852 29
Medicines and hospital supplies,	. . .	361 61	
Medical attendance, nurses, etc.,	. . .	27 00	
Examination of applicants,	. . .	636 16	
Postage,	. . .	35 32	
Printing and printing supplies,	. . .	35 90	
Cuspidor supplies,	. . .	54 56	
Soap and laundry supplies,	. . .	97 62	
Stationery and office supplies,	. . .	70 35	
Travel and expenses (officials),	. . .	155 32	
Telephone and telegraph,	. . .	129 59	
Water,	. . .	534 22	
Sundries,	. . .	68 15	
			<hr/> 2,725 86
			<hr/> \$20,578 15

SUMMARY OF CURRENT EXPENSES.

Total expenditures,	. . . . .	\$163,070 05
Unpaid bills,	. . . . .	20,578 15
		<hr/> \$183,648 20
Deducting amount of sale of supplies,	. . . . .	4,849 96
		<hr/> \$178,798 24
Deducting further increase of supplies on hand and paid for		
Nov. 30, 1907,	. . . . .	3,247 49
		<hr/> \$175,550 75

Dividing this amount by the daily average number of patients, 335, gives an average annual cost of \$524.03, equivalent to an average weekly net cost of \$10 07+.

Respectfully submitted,

FREDERICK L. HILLS,

Treasurer.

RUTLAND, Dec. 1, 1907.

RUTLAND, MASS., Jan. 1, 1908.

I have this day examined the accounts of the treasurer of the Massachusetts State Sanatorium, and have found them correct.

C. E. WATSON,

Expert Accountant.

FARM ACCOUNT.

DR.	
Products of the farm on hand, as estimated Dec. 1, 1906, .	\$3,304 23
Blacksmith,	114 90
Board of men,	1,350 00
Coal,	12 76
Grain and feed for stock,	2,711 88
Labor,	5,517 88
Live stock,	306 19
Seeds and fertilizers,	924 93
Sundries,	126 92
Tools, machinery and repairs,	245 45
Waste from sanatorium kitchen,	200 00
	\$14,815 14
CR.	
Board of driving horses for six months, at \$15 per month, .	\$390 00
Board of driving horses for six months, at \$20 per month, .	480 00
Labor for sanatorium putting in ice, hauling provisions from station, etc.,	1,489 77
Milk, 113,755 quarts, at \$0.04½,	5,118 98
Fruit, vegetables and wood supplied, as estimated in stock Dec. 1, 1906,	331 23
Fruit and vegetables supplied, as per list following, . . .	1,584 88
Beef supplied, as per list following,	108 32
Pork supplied, as per list following,	42 13
Cider supplied, as per list following,	9 80
Sold:—	
Hogs,	1,424 71
Cows and calves,	90 00
Hay and grain,	9 17
Teaming,	2 50
Grease,	200 00
Products of farm on hand, as estimated Dec. 1, 1907, per list following,	1,956 00
Increase of live stock on farm,	157 00
	\$13,394 49
Deficit against farm,	1,420 65
	\$14,815 14

PRODUCTS OF THE FARM DELIVERED TO THE SANATORIUM DURING THE
YEAR ENDING NOV. 30, 1907.

Apples, 6 barrels,	\$9 00
Beans, 76 boxes, at \$0.40 to \$1.25,	75 80
Beef, 1,645½ pounds, at \$0.07 to \$0.08½,	108 32
Beets, 65 bushels, at \$0.65 to \$0.75,	47 20
Beet greens, 16 boxes, at \$0.30,	4 80
Cabbage, 1,770 pounds, at \$0.01 to \$0.08,	33 12
Carrots, 97½ boxes, at \$0.60,	58 50
Cauliflower, 274 heads, at \$0.02½ to \$0.15,	9 59
Celery, 170 dozen, at \$0.75 to \$1 per dozen,	157 95
Cider, 98 gallons, at \$0.10,	9 80
Corn, 779 dozen, at \$0.15 to \$0.25 per dozen,	195 90
Cucumbers, 28,675, at \$0.50 to \$1.50 per hundred,	175 33
Egg plant, 6, at \$1 per dozen,	50
Leeks, 112½ bushels, at \$0.40 to \$0.50,	46 80
Lettuce, 332½ dozen, at \$0.25 to \$0.80,	145 68
Onions, 11½ boxes, at \$0.75 to \$1, and 18 bunches, at \$0.05,	11 00
Pease, 34½ boxes, at \$1.50 to \$1 75,	55 75
Peppers, 19 quarts, at \$0.02 to \$0.05,	84
Pork, 494½ pounds, at \$0.08½ to \$0.09½,	42 13
Radishes, 23 boxes, at \$0.60 to \$1,	18 70
Rhubarb, 1,354 pounds, at \$0.02 to \$0.03,	32 86
Squash (Hubbard), 11,730 pounds, at \$0.02,	234 60
Squash (marrow), 5,155 pounds, at \$0.01 to \$0.01½,	74 03
Squash (summer), 167 pounds, at \$1 to \$1.50 per hundred-weight,	25 08
Swiss chard, 24 boxes, at \$0.50 to \$1,	13 50
Tomatoes, 102 boxes, at \$0.75 to \$1.25,	97 25
Tomatoes (green), 5 barrels, at \$1,	5 00
Turnips, 93½ boxes, at \$0.30 to \$0.60,	56 10

\$1,745 13

ON HAND DEC. 1, 1907.

Hay, 80 tons, at \$18,	\$1,440 00
Ensilage, 75 tons, at \$6.66,	500 00
Rye, 16 bushels, at \$1,	16 00

\$1,956 00

SPECIAL APPROPRIATIONS.

HOSPITAL FOR CONSUMPTIVES LOAN FUND.

Unexpended balance,	\$280 30
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NEW FARMHOUSE.

[Resolves 1906, chapter 83.]

Appropriation,	\$3,500 00
<hr style="width: 100%;"/>	
Balance available,	\$3,500 00

PIAZZAS.

[Resolves 1907, chapter 98.]

Appropriation,	\$2,000 00
Expended during year,	613 51
<hr style="width: 100%;"/>	
Balance available,	\$1,386 49

PIGGERY.

[Resolves 1906, chapter 83; Resolves 1907, chapter 98.]

Appropriation,	\$1,000 00
Expended during year,	334 55
<hr style="width: 100%;"/>	
Balance available,	\$665 45

GRADING.

[Resolves 1907, chapter 98.]

Appropriation,	\$500 00
Expended during year,	118 00
<hr style="width: 100%;"/>	
	\$382 00

PAVILION.

[Resolves 1907, chapter 98.]

Appropriation,	\$2,000 00
<hr style="width: 100%;"/>	
Balance available,	\$2,000 00

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number of patients present at beginning of fiscal year.	175	157	332
Number received during year,	477	471	948
Number discharged during the year,	469	470	939
Number of deaths included in preceding item,	8	3	11
Number at end of the fiscal year,	183	158	341
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	180	155	335
Average number of officers and employees during the year.	90	61	151

Expenditures.¹

Current expenses:—

1. Salaries and wages,	\$47,383 96	
2. Clothing,	—	
3. Subsistence,	72,923 00	
4. Ordinary repairs,	4,184 25	
5. Office, domestic and out-door expenses,	38,578 84	
Total,		\$163,070 05

Extraordinary expenses:—

1. New buildings, land, etc.,	—	
2. Permanent improvements to existing buildings,	\$929 95	
Total,		929 95

Grand total, \$164,000 00

¹ Includes only money actually expended during the year, and does not represent total cost of maintenance, which includes unpaid bills of \$20,578.15.

REAL AND PERSONAL ESTATE.

REAL ESTATE

Buildings,	\$419,450 00	
Land,	44,652 00	
	<hr/>	\$464,102 00

PERSONAL ESTATE.

Live stock on the farm,	\$5,120 00	
Produce of the farm on hand,	1,956 00	
Carriages and agricultural implements,	1,507 00	
Machinery and mechanical fixtures,	1,968 60	
Beds and bedding in inmates' department,	8,722 00	
Other furniture in inmates' department,	1,764 00	
Other miscellaneous furniture,	7,840 00	
Personal property of State in superintendent's department,	1,666 00	
Ready-made clothing,	750 00	
Dry goods,	443 92	
Provisions and groceries,	3,125 59	
Drugs and medicine,	885 05	
Fuel,	5,606 00	
Library,	900 00	
Other supplies, undistributed,	5,315 38	
	<hr/>	\$47,569 54
		<hr/>
		\$511,671 54

LIST OF WAGES.

Superintendent and treasurer (per annum),	\$2,500 00
Physician (per annum),	1,200 00
Physician (per annum),	1,000 00
Physician (per annum),	800 00
Assistant physician (per annum),	600 00
Assistant physician (per annum),	200 00
Matron and superintendent of nurses (per annum),	1,200 00
Steward and clerk (per annum),	1,000 00
Bookkeeper (per month),	40 00
Chief engineer (per month),	90 00
Dietitian (per month),	75 00
Dietitian's assistant (per month),	25 00
Farmer (per annum),	900 00
Stenographer (per month),	35 00
Nurses, day (per month),	\$30 00 to 40 00
Nurses, night (per month),	40 00
Attendants (per month),	\$13 00 to 30 00
Supervisors, male (per month),	15 00 and 35 00
Supervisor, female (per month),	17 00
Office assistant (without living),	30 00
Cook (per month) (without living),	85 00
Baker (per month) (without living),	75 00
Assistant cook,	50 00
Engineers and firemen (per month) (without living),	\$50 00 to 60 00
Firemen (per month),	30 00 to 40 00
Carpenter (per day) (without living),	2 70
Carpenter (per month),	25 00
Night attendant (per month) (without living),	48 00
Diet cook (per month),	17 00
Head laundress (per month),	30 00
Storeroom man (per month),	30 00
Storeroom man helper,	15 00
Storekeeper,	40 00

Pharmacist (per month),	\$18 00		
General work, male and female (per month), . .	\$10 00	to	25 00
Laundry help, male (per month),	15 00	to	25 00
Laundry help, female (per month),	15 00	to	20 00
Ward help, male (per month),	15 00	to	25 00
Kitchen help, male (per month),	15 00	to	35 00
Expressman (per month),	28 00		
Coachman (per month),	30 00		
Farm help (per month),	\$15 00	to	28 00
Farm help (per day) (without living),	1 75	to	2 00
Waiters, male (per month),	13 00	to	18 00
Waiters, female (per month),	13 00	to	19 00
Serving room men (per month),	14 00	to	30 00
Serving room girls (per month),	12 00	to	15 00
Diet kitchen girls,	12 00	to	16 00

STATISTICAL TABLES.

STATISTICAL TABLES

FOR THE YEAR ENDING NOV. 30, 1907.

TABLE I. — *Admissions and Discharges.*

	Men.	Women.	Totals.
Number of patients in sanatorium Dec. 1, 1906, .	175	157	332
Number admitted Nov. 30, 1906, to Dec. 1, 1907, .	477	471	948
Number discharged Nov. 30, 1906, to Dec. 1, 1907, .	469	470	939
Number of deaths (included in preceding item), .	8	3	11
Number remaining in sanatorium Nov. 30, 1907, .	183	158	341
Daily average number of patients,	180	155	335

TABLE II. — *Monthly Admissions and Discharges, with Average Monthly Population.*

DATE.	ADMITTED.		DISCHARGED.		Daily Average.
	Men.	Women.	Men.	Women.	
1906.					
December,	30	32	25	33	332
1907.					
January,	35	23	38	24	335
February,	30	26	31	23	334
March,	35	38	39	43	336
April,	46	44	43	33	330
May,	50	44	54	54	335
June,	47	53	34	56	327
July,	42	52	38	47	339
August,	47	44	49	56	339
September,	39	44	38	35	333
October,	32	46	36	39	341
November,	44	25	44	27	340

TABLE III. — *Distribution of Examinations.*

PLACE OF EXAMINATION.	Number.
Boston, Massachusetts General Hospital,	1,845
Rutland,	346
Worcester City Hospital,	93
Fall River,	92
Lowell,	91
Springfield,	77
Northampton,	37
Pittsfield,	32
Greenfield,	15
Worcester, Hahneman Hospital,	6
Total,	2,634

TABLE IV. — *Residence of Patients admitted.*

COUNTIES.	MEN.	WOMEN.	TOTALS.
Suffolk,	179	168	347
Middlesex,	88	90	178
Essex,	46	53	99
Worcester,	54	65	119
Bristol,	22	22	44
Hampden,	20	15	35
Norfolk,	17	18	35
Plymouth,	26	18	44
Hampshire,	9	2	11
Berkshire,	6	10	16
Barnstable,	1	—	1
Franklin,	8	10	18
Dukes,	1	—	1
Totals,	477	471	948

TABLE V. — *Nativity of Patients admitted.*

BORN IN —	Men.	Women.	Totals.	BORN IN —	Men.	Women.	Totals.
United States, .	276	275	551	Roumania, .	—	1	1
Austria, . .	4	3	7	Russia, . .	37	27	64
Canada, . .	46	68	114	Scotland, . .	5	4	9
Denmark, . .	3	2	5	Sweden, . .	13	14	27
England, . .	14	12	26	Syria, . .	1	1	2
France, . .	1	—	1	Turkey, . .	2	1	3
Germany, . .	1	5	6	Finland, . .	1	4	5
Greece, . .	1	—	1	Belgium, . .	1	—	1
Ireland, . .	43	43	86	Azores, . .	3	2	5
Italy, . .	12	4	16	Hungary, . .	1	1	2
Newfoundland, .	1	2	3	Armenia, . .	7	—	7
Norway, . .	1	2	3	Egypt, . .	1	—	1
Poland, . .	1	—	1				
Portugal, . .	1	—	1	Totals, .	477	471	948

American born, foreign parentage : —

TABLE V. — *Nativity of Patients admitted* — Concluded.

FATHER BORN IN —	Men.	Women.	Totals.	FATHER BORN IN —	Men.	Women.	Totals.
Austria, .	1	—	1	Portugal, . .	1	—	1
Canada, . .	22	28	50	Russia, . .	4	5	9
Denmark, . .	2	—	2	Scotland, . .	2	1	3
England, . .	12	11	23	Sweden, . .	2	2	4
Germany, . .	8	5	13	Azores, . .	1	1	2
Ireland, . .	81	71	152	Hungary, . .	1	—	1
Italy, . .	6	2	8				
Jamaica, . .	1	—	1	Totals, .	147	126	273
Poland, . .	3	—	3				

TABLE VI. — *Civil Condition of Patients admitted.*

	Men.	Women.	Totals.
Married,	187	199	386
Single,	272	248	520
Widowed,	14	21	35
Divorced,	2	2	4
Separated,	2	1	3
Totals,	477	471	948

TABLE VII. — *Age of Patients admitted.*

	Men.	Women.	Totals.
14 to 20 years,	76	89	165
20 to 30 years,	217	206	423
30 to 40 years,	131	137	268
40 to 50 years,	45	34	79
Over 50 years,	8	5	13
Totals,	477	471	948

TABLE VIII. — *Occupations.*

	Men.	Women.		Men.	Women.
Artists,	1	1	Canvassers,	2	—
Attendants,	2	2	Cash boy,	1	—
Ball player,	1	—	Carpenters,	9	—
Barbers,	3	—	Cigarmakers,	3	1
Bartender,	1	—	Clerks,	50	20
Bell boy,	1	—	Coachmen,	3	—
Blacksmiths,	2	—	Conductors, electric railway.	5	—
Bookbinders,	3	1	Contractors,	2	—
Bookkeepers,	5	6	Cooks,	1	3
Brakemen,	4	—	Dentist,	1	—
Brass finisher,	1	—	Domestics,	—	25
Brewer,	1	—	Draughtsman,	1	—
Bridge tender,	1	—	Dressmakers,	—	7
Bundle girl,	—	1	Electricians,	5	—
Cabinet makers,	3	—	Elevator men,	2	—
Candy maker,	1	—	Engineer, locomotive,	1	—

TABLE VIII. — *Occupations* — Continued.

	Men.	Women.		Men.	Women.
Engineer, mechanical,	1	-	Ladies' maid, . . .	-	1
Engineers, stationary,	6	-	Laundresses, . . .	-	8
Engraver, . . .	1	-	Letter carrier, . . .	1	-
Factory and mill oper- atives.	77	88	Librarian, . . .	1	-
Farmers, . . .	4	-	Longshoreman, . . .	1	-
Fireman, locomotive,	1	-	Machinists, . . .	24	-
Fireman, stationary, .	1	-	Masons, brick, . . .	2	-
Fishermen, . . .	2	-	Messenger, . . .	1	-
Floor layer, . . .	1	-	Milkman, . . .	1	-
Foremen, . . .	2	-	Milliners, . . .	-	6
Furs, . . .	-	1	Motormen, . . .	3	-
Gardeners, . . .	2	-	Musicians, . . .	5	4
Glaziers, . . .	2	-	Newsboy, . . .	1	-
Grocers, . . .	4	-	Newspaper reporters,	2	-
Hackman, . . .	1	-	No work, . . .	-	5
Harness maker, . . .	1	-	Nursemaids, . . .	-	3
Hatmakers, . . .	2	-	Nurses, student, . .	-	2
Hostlers, . . .	5	-	Nurses, trained, . .	-	4
Housewives, . . .	-	157	Optician, . . .	1	-
Housework, . . .	-	42	Packers, . . .	4	-
Inspector gas com- pany.	1	-	Painters, . . .	9	-
Insurance solicitors, .	4	-	Peddler, . . .	1	-
Interpreters, . . .	1	1	Pharmacist, . . .	1	-
Iron moulders, . . .	3	-	Photographers, . . .	3	-
Iron workers, . . .	3	-	Plasterers, . . .	2	-
Junk dealer, . . .	1	-	Plumbers, . . .	2	-
Laborers, . . .	22	-	Poolroom, . . .	2	-

TABLE VIII. — *Occupations* — Concluded.

	Men.	Women.		Men.	Women.
Porter, . . .	1	—	Stonecutters, . . .	5	—
Pressmen, . . .	2	—	Students, . . .	28	25
Printers, . . .	13	—	Tailors, . . .	13	2
Sailors, . . .	3	—	Teachers, . . .	1	9
Salespeople, . . .	14	9	Teamsters, . . .	19	—
Salvation Army, .	—	1	Telephone operators,	—	5
Seamstresses, . .	—	4	Telegraph operator, .	1	—
Shippers, . . .	5	—	Undertaker, . . .	1	—
Shoecutters, . . .	7	—	Upholsterer, . . .	1	—
Shoemakers, . . .	14	—	Waiters, . . .	2	14
Steamfitter, . . .	1	—	Watchmakers, . . .	5	—
Stenographers, . .	6	13	Watchmen, . . .	4	—

TABLE IX. — *Classification of Results (National Association Classification).*

	INCIDENT.				MODERATELY ADVANCED.				FAR ADVANCED.				TOTALS.			
	Men.	Women.	Totals.	Per Cent.	Men.	Women.	Totals.	Per Cent.	Men.	Women.	Totals.	Per Cent.	Men.	Women.	Totals.	Per Cent.
Apparently cured, .	82	73	155	56.16	14	23	37	12.54	3	2	5	3.70	99	98	197	27.8
Arrested, .	41	33	74	26.80	49	28	77	26.10	8	6	14	10.39	98	67	165	23.5
Improved, .	19	26	45	16.32	74	78	152	51.52	39	43	82	60.79	132	147	279	39.5
Not improved, ¹ .	1	1	2	.72	15	14	29	9.84	21	13	34	25.12	37	28	65	9.2
Totals, .	143	133	276	-	152	143	295	-	71	64	135	-	366	340	706	-

¹ Including 11 deaths.

TABLE X. — *Comparison of Percentages since the Adoption of National Association Classification.*

INCIPIENT CASES.	1905.	1906.	1907.
Apparently cured,	39.2	50.4	56.2
Arrested,	46.7	40.1	26.7
Improved,	12.0	8.9	16.3
Not improved,	2.0	.6	.8

TABLE XI. — *Number of Patients having Hemorrhages.*

	Men.	Women.	Totals.
Hemorrhage prior to entrance,	196	157	353
Hemorrhage in sanatorium,	61	30	91
Totals,	257	187	444

Per cent. of cases with record of hemorrhage, 62.8.

TABLE XII. — *Deaths, Duration of Disease, Length of Stay in Sanatorium and Cause of Death.*

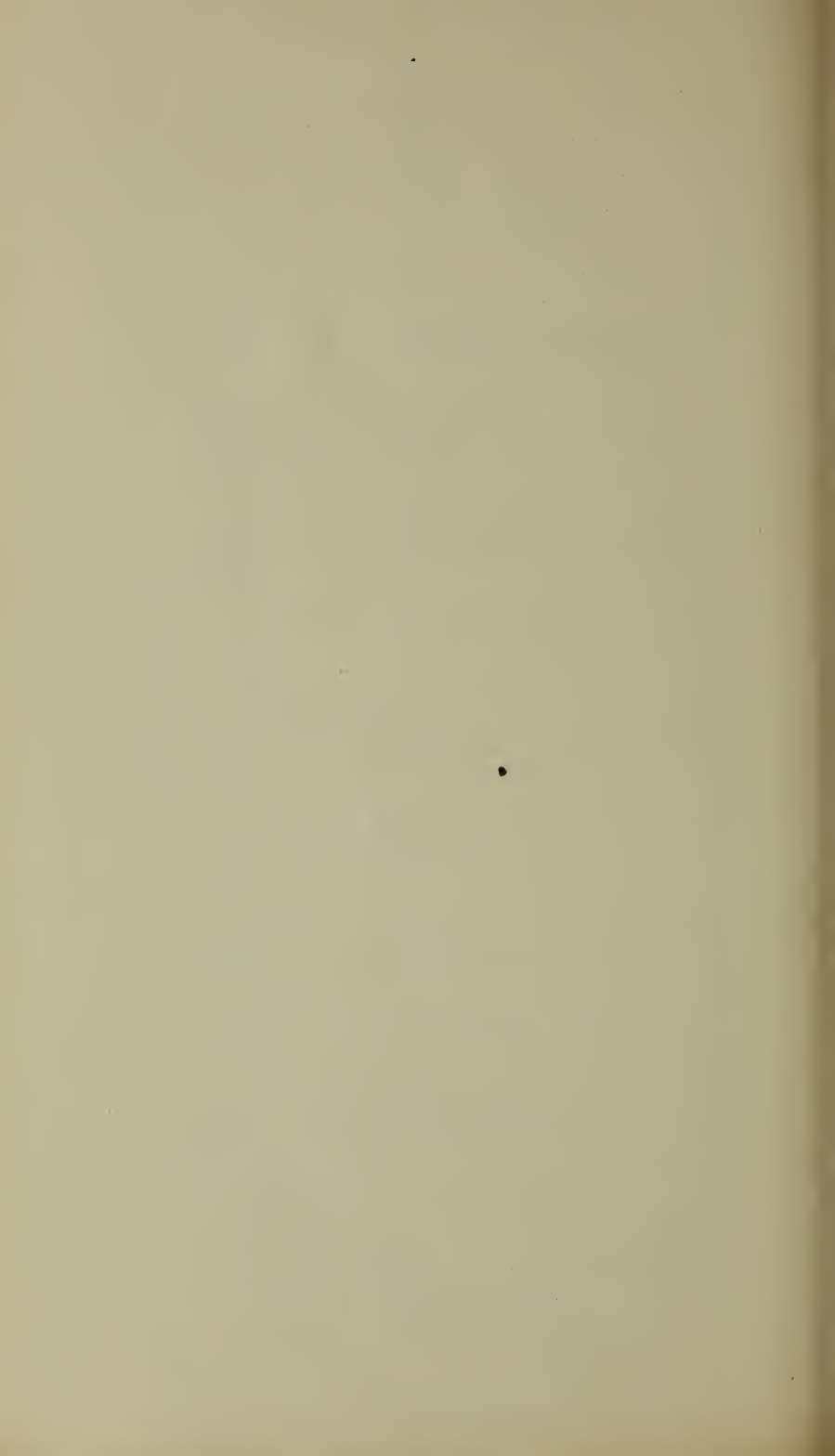
No.	Duration.	Stay.	Cause.
4537, .	8 weeks, .	3 months, 15 days,	Bronchiectasis with rupture of lung.
4829, .	9 months, .	3 months, 5 days,	Pulmonary tuberculosis.
5089, .	3 months, .	10 days, .	Diffuse miliary tuberculosis.
4664, .	7 months, .	6 months, 15 days,	Pulmonary tuberculosis.
4785, .	4 years, .	6 months, 1 day, .	Tubercular meningitis.
5112, .	3 to 4 years,	1 month, 21 days,	Pulmonary tuberculosis, hemorrhage.
5554, .	1 year, .	19 days, .	Pulmonary tuberculosis.
5605, .	Unknown, .	1 month, 1 day, .	Tubercular meningitis.
4429, .	6 months, .	6 months, 15 days,	Acute miliary tuberculosis.
5490, .	Unknown, .	1 month, 8 days, .	Sarcoma of the lung.
5485, .	Unknown, .	2 months, 8 days,	Pericarditis.

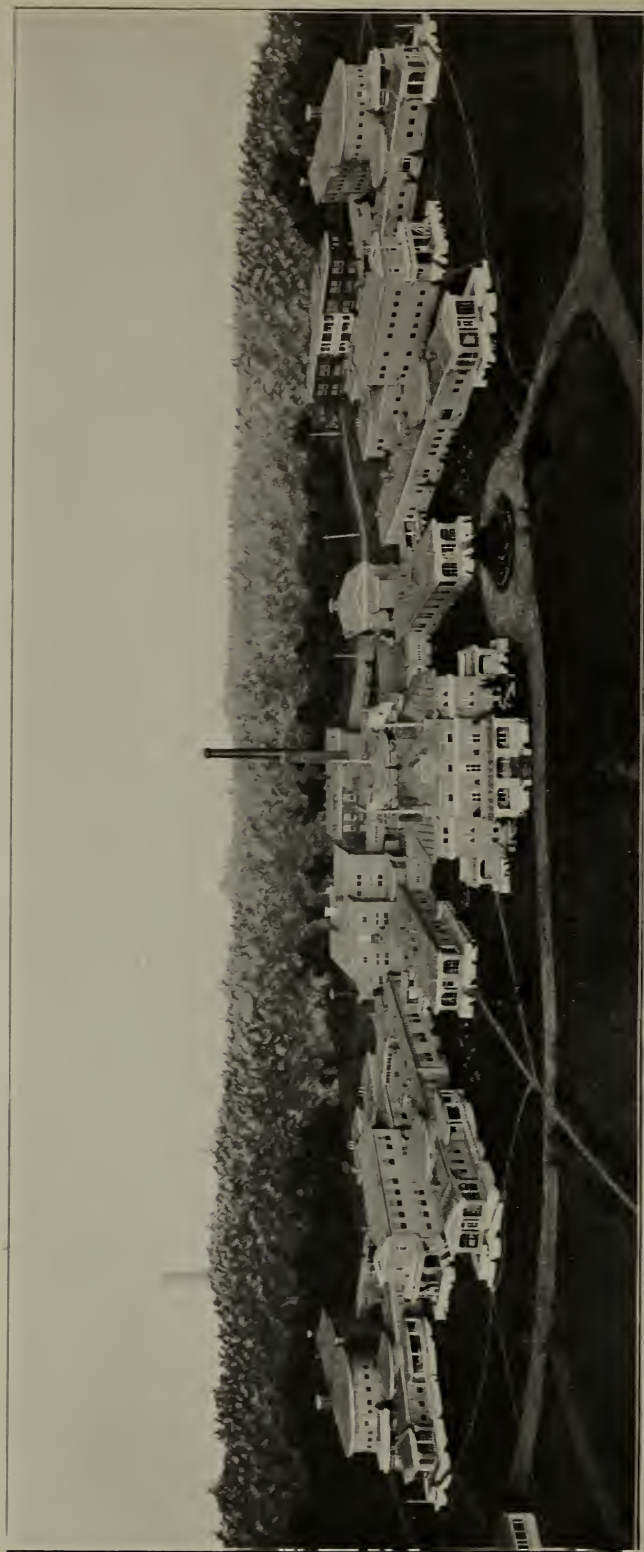
TABLE XIII.—*Admissions and Discharges from the Beginning of the Sanatorium.*

	Number.	Per Cent.
Admitted,	5,763	—
Discharged,	5,422	—
Not considered,	1,088	—
Considered,	4,334	—
Arrested or apparently cured,	1,880	43.39
Improved,	2,053	47.38
Not improved (including 40 died),	401	9.23

Climatological Data, Massachusetts State Sanatorium, Rutland, Altitude, 1,160 Feet, for the Official Year, beginning Dec. 1, 1906, and ending Nov. 30, 1907.

DATE.	Mean Temperature.	Clear Days.	Partly Cloudy Days.	Cloudy Days.	Days with Rain or Snow.	Days with Fog.	Precipitation (Rain, in Inches and Tenths).	Precipitation (Snow, in Inches and Tenths).	Wind Movement. Miles.	Humidity.	Percentage of Possible Sunshine.
1906.											
December, .	21.5	6	9	16	14	2	1.46	34.00	6,988	76.9	Whole year taken.
1907.											
January, .	21.2	5	13	13	12	1	.80	23.25	7,445	72.3	
February, .	14.3	7	14	7	11	1	.09	17.54	7,792	72.0	
March, .	31.9	11	10	10	11	1	.37	15.50	7,650	66.9	
April, .	37.8	4	17	9	11	3	.90	23.75	7,915	63.0	
May, .	48.9	4	17	10	9	5	3.11	4.00	7,623	65.4	
June, .	61.6	5	17	8	11	2	4.79	-	6,490	68.7	
July, .	68.4	13	17	1	8	1	2.96	-	6,217	67.9	
August, .	65.3	4	22	5	10	5	1.43	-	6,055	67.0	
September, .	59.1	8	10	12	14	3	9.43	-	6,379	78.4	
October, .	45.3	19	9	3	11	-	6.62	-	7,390	73.0	
November, .	37.4	16	6	8	8	-	5.72	4.50	5,930	80.8	
Totals, .	512.7	102	161	102	130	24	37.68	122.54	83,864	852.3	
Averages, .	42.7	8.5	13.4	8.5	9.2	2	3.14	10.20	6,988.6	71.0	59





MODEL OF MASSACHUSETTS STATE SANATORIUM

TWELFTH ANNUAL REPORT
OF
THE TRUSTEES
OF THE
MASSACHUSETTS
STATE SANATORIUM
AT RUTLAND.

NOVEMBER 30, 1908.



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Commonwealth of Massachusetts.

TRUSTEES' REPORT.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

During the past year the State Sanatorium completed ten years of service, the first patient having been received upon Oct. 10, 1898. This being the first State institution of its kind in the United States it was generally considered an experiment. It is no longer regarded as such, but as an important factor in the campaign against tuberculosis in this State, and now that the value of such an institution is established many other States are following our example. Under these circumstances the trustees thought it especially desirable that a creditable exhibit should be made at the International Congress on Tuberculosis, held in the city of Washington, Sept. 21 to Oct. 12, 1908. An exhibit entirely the work of present or former patients was prepared consisting of an elaborate model of all the buildings (a photograph of which appears in the front of this report), photographs, charts and tables, showing construction, equipment, treatment and results. This exhibit attracted much attention, and was awarded a silver medal in the class of sanatoria "for the curable treatment of incipient cases of tuberculosis from the working classes." There probably were more exhibitors in this class than in any other and seven prizes were awarded, the Rutland Sanatorium being the only State institution and one out of four American sanatoria to receive a prize.

The new buildings, for which appropriations have been made, were completed during the past year. These are a cow barn for 50 cows, a new house for the farmer and his family, a recreation pavilion for the men patients, and a hennery for 800 hens.

The recreation pavilion has been a great success. Located in front of the wards for men, it is so constructed that it can shelter the patients from wind and weather while practically open on three sides. It contains a pool table, half a dozen tables for checkers and other games, and a fireplace. The pavilion has been in constant use, and as the problem of providing mental occupation for patients is a troublesome one in the treatment of incipient tuberculosis, this building is of great assistance.

The contract for the cow barn was awarded to Christopher Adams of Northampton, for \$8,295, and the building is now ready for occupancy. Last year one-half of our herd was killed after tests had shown signs of tuberculosis. These cows have not been replaced because there was no fit place to house them. We now have a suitable place and ask for an appropriation of \$1,400 for the purchase of cows. Nearly 800 quarts of milk are used daily at the sanatorium and we desire to furnish as much of this amount as is possible from our own herd.

No contractor could be found who would undertake to build the farmer's house for the amount of the appropriation (\$3,500), and so the sanatorium purchased the lumber and other materials, employed the necessary labor and erected the building under the direction of the superintendent and the head carpenter, for the amount appropriated.

The time has come when the building of a nurses' home ought not to be postponed any longer. We employ 8 graduate women nurses who have under them 16 to 18 women "attendants," mostly former patients, who, while not graduates of any nurses' training school, perform most of the duties of tuberculosis nurses. A few of these nurses occupy one of the small wards on the north side of the sanatorium, while most of them are scattered through the patients' wards, and all are obliged to use the patients' bath and dressing rooms. Tuberculosis nurses are difficult to get and are obliged to work hard, and they should be separated from the patients and lodged in a nurses' home, as are the nurses in many of our other State institutions. Plans for such a home, to accommodate 25 nurses and to cost, fully equipped and furnished, \$15,000, have been drawn by Frost, Briggs & Chamberlain of Worcester, and with specifications and

estimates have been submitted to and approved by the State Board of Charity, as provided by chapter 520 of the Acts of 1907. We ask for an appropriation for this purpose of \$15,000, which is the lowest amount for which a suitable building can be built and furnished ready for occupancy.

There have been but two changes in the staff since the last report. Miss Ruth Montague resigned as dietitian in September, to accept a position at the Rhode Island State Sanatorium, and Miss Ethel Heald of Rutland, a graduate of Simmons College, was appointed to the position. November 1, Dr. B. S. Putts resigned as assistant physician, after a year's service, to enter private practice. This vacancy has not yet been filled.

We desire to call attention to the practical working of chapter 222 of the Acts of 1907, in regard to which many complaints have been received from the public. This act provided that in the admission of patients to the sanatorium preference must be given to citizens of Massachusetts, and, as interpreted by the Attorney-General, prohibits the admission of any resident of the Commonwealth who is not a citizen so long as any citizen in the incipient or moderately advanced stages of tuberculosis presents himself, without regard to the order of application or the stage of the disease. Only those born or naturalized in this country and resident in this Commonwealth are citizens, and this law has worked especial hardship on minors and unmarried women who take the citizenship of their fathers. Many cases have occurred where the death of a father, without being naturalized, has compelled us to postpone indefinitely the admission of his children, although they have been residents here for many years. In a typical case occurring last year we were obliged to postpone indefinitely the admission of a woman who had been a resident of Massachusetts some thirty years, because her father was born in Ireland, and had died here before he had been a resident long enough to become naturalized, and we were obliged to give preference to the wives of persons who had been residents only long enough to take out naturalization papers. Many of these cases are postponed so long that they are no longer suitable for admission when a vacancy for them occurs, and it is always impossible

to name any definite date when they can be admitted. We receive constant complaint of the working of this law, and do not believe that these results were foreseen at the time of its passage. We recommend its repeal, or, if preferences are considered desirable, its amendment, so that preference shall be based on a reasonable period of residence, although (like the present law) this may result in a great deal of deception to gain admission.

The estimates for the coming year are as follows:—

For maintenance,	.	.	.	.	.	.	.	.	\$184,000	00
For nurses' home,	.	.	.	.	.	.	.	.	15,000	00

For other special matters:—

Additional piazzas,	.	.	.	.	.	.	.	.	\$2,000	00
Renewing stucco,	.	.	.	.	.	.	.	.	1,375	00
Enlarging henmery,	.	.	.	.	.	.	.	.	1,500	00
Purchase of cows,	.	.	.	.	.	.	.	.	1,400	00
Moving coal trestle,	.	.	.	.	.	.	.	.	1,200	00
Relaying corridor floors,	.	.	.	.	.	.	.	.	1,000	00
Elevator,	.	.	.	.	.	.	.	.	1,400	00
Improving grounds,	.	.	.	.	.	.	.	.	500	00
X-ray apparatus,	.	.	.	.	.	.	.	.	600	00
									<hr/>	
									\$11,975	

The reasons for building a nurses' home have already been given. The requests for other appropriations have been approved by the State Board of Charity.

The original design of the buildings was defective in not providing piazzas large enough to enable the patients to sit and sleep outdoors. Each ward should have ample piazzas, and we need an appropriation to carry on this work, now partly completed.

The appropriation for cows will enable us to bring our herd up to its former size and fill the new cow barn.

Last year \$2,000 was appropriated as the estimated cost of one-half of the necessary repairs to the stucco work covering the outside of the buildings; we have been able to complete more than half the work, and ask for \$1,375 to finish it.

The Boston & Maine Railroad is willing to build a new station at Muschopauge, to replace the existing one, which is wholly in-

adequate; if this is done the coal trestle belonging to the sanatorium must be moved and set up on the other side of the tracks, at an estimated expense of \$1,200.

The main corridor of the buildings is nearly one-quarter of a mile long and in constant use; its floors are in very bad condition, due partly to the original use of inferior material, and need complete relaying.

An appropriation of \$1,500 will enable us to keep 1,600 hens and materially reduce the cost of eggs, 1,000 of which are used daily.

For a number of years it was the custom to appropriate annually \$500 for improvement of the grounds, in accordance with suggestions of Olmsted Brothers; no appropriation of equal amount has done more for the appearance of the institution or given more pleasure to the patients, and it is hoped that this appropriation, omitted last year, will again be made.

Unless an elevator is installed in the infirmary, hemorrhage patients must be carried upstairs on stretchers, a proceeding involving serious danger.

The estimate for maintenance is made up as follows: —

Food,	\$81,470 72
Salaries,	51,742 44
Heat, light and power,	15,004 08
Repairs and improvements,	7,007 98
Furnishings,	4,654 40
Farm, stable and grounds,	5,827 08
Miscellaneous (includes medical and hospital supplies and all other expenses),	18,293 30
Total,	<hr/> \$184,000 00

This is \$1,000 less than the appropriation for the current year.

The cost of maintenance at Rutland compares favorably with that at institutions of a similar character offering like treatment. In 1907 the cost of maintaining a patient one week at Rutland was \$10.07 and in 1908 was \$10.23. During 1907 (the latest year for which figures from other institutions are available) the per capita cost at other institutions was: New York State Hospital at Raybrook, \$9.47; Rhode Island State Sanatorium, \$9.61; Gaylord Farm, Connecticut, \$11.13; Adi-

rondack Cottage Sanatorium, \$11.53; Maine Sanatorium, \$14.53; Stony Wold, New York (includes clothing), \$15.96. The fiscal year is not the same at all these institutions, but the figures are sufficiently accurate to show that the cost of maintenance at Rutland does not suffer by comparison with that at other sanatoria offering substantially the same treatment.

ALBERT C. GETCHELL.

FANNY B. RUSSELL.

SYLVIA B. KNOWLTON.

JEREMIAH SMITH, JR.

ASHUR HYNEMAN.

WELLINGTON E. PARKHURST.

JOHN PRENTICE RAND.

SUPERINTENDENT'S REPORT.

To the Trustees of the Massachusetts State Sanatorium.

LADIES AND GENTLEMEN: — I have the honor to submit the following report for the year ending Nov. 30, 1908.

There were 341 patients in the sanatorium at the beginning of the year, Dec. 1, 1907, of whom 183 were men and 158 were women. During the year 420 men and 390 women, a total of 810 patients, were admitted. During this period 804 patients were discharged, — 414 men and 390 women, — including 7 men who died. There were remaining in the sanatorium Nov. 30, 1908, 347 patients, — 189 men and 158 women. The daily average number of patients was 339, 4 more than last year and the highest number since the opening of the sanatorium.

APPLICATIONS FOR ADMISSION.

There were 1,962 new applicants examined for admission. Of this number, 596 were accepted, 558 not accepted and 808 deferred.

Applicants in the incipient or early stages of pulmonary tuberculosis who are citizens are accepted and usually admitted within a week or ten days after examination.

The cases which are deferred are those with moderately advanced disease, who are admitted when there are not enough applicants with incipient disease to fill the sanatorium, and the non-citizen applicants who can be accepted only when there are no citizen applicants who are eligible for admission.

Those who are not accepted are the far advanced and the moderately advanced cases which are unsuitable for sanatorium treatment on account of age or complicating conditions.

There were 523 re-examinations of deferred cases, of which 134 were accepted, 157 not accepted and 232 deferred.

The total number of examinations for admission was 2,485. Of this number, 1,729, or 69.5 per cent., were examined at the Boston office. The number of examinations at the sanatorium — 310 — includes many who were formerly examined in Boston or elsewhere, and who reapplied while living at one of the boarding houses in Rutland.

At the Worcester City Hospital 122 examinations were made; at Fall River, 88; at Lowell, 84; at Springfield, 69; at Pittsfield, 36; at Northampton, 34; at Greenfield, 10, and at the Worcester Hahnemann Hospital, 3.

ADMISSIONS.

Over 55 per cent. of the admissions were from two counties, — Suffolk, 36.4 per cent. and Middlesex, 19.6 per cent. Essex County furnished 11.3 per cent.; Worcester County, 10.8 per cent.; Bristol County, 5.8 per cent.; Plymouth County, 4.3 per cent.; Norfolk County, 3.9 per cent., and Berkshire County, 2 per cent.

NATIVITY.

A much larger proportion of the patients admitted this year were native born, — 70.49, compared with 58.12 last year. This is doubtless the result of the working of chapter 222 of the Acts of 1907, which required that in the admission of patients preference be given to citizens of the Commonwealth. During the last twelve months, the first full year that this law has been in operation, 225 applicants — 119 men and 106 women — have been deferred for periods ranging from a few weeks to several months, on account of non-citizenship. Of this number, we have later been able to admit but 47, — 28 men and 19 women. Fully 75 per cent. of these applicants were in the incipient stages of the disease and were cases urgently needing sanatorium care. To refuse to admit them means to the majority a continuance of life under adverse conditions and an extension of the disease beyond the possibility of cure. They are not taken from the community, they have no opportunity for adequate instruction, and they remain as dangers to their associates and centers of infection. So long as there are not enough incipient cases applying to fill the sanatorium, it would seem better policy to take at least all of the incipient cases that

apply, irrespective of citizenship, so long as they are bona fide residents of the Commonwealth.

Of the foreign-born patients admitted 26.3 per cent. were natives of Canada; 23.4 per cent. of Ireland; 16.3 per cent. of Russia; 6.6 per cent. of England; 6.2 per cent. of Sweden, and 4.6 per cent. of Germany.

Of those born in America of foreign parentage the paternal ancestry was Irish in 55.2 per cent., Canadian in 18.9 per cent., and English in 6.5 per cent.

AGE.

That tuberculosis is a disease of early adult life is again made manifest by our statistics, which show 63.7 per cent. of the admissions to have been of patients under thirty years of age. The women applying for admission are relatively younger than the men, the figures being 66 per cent. and 61 per cent. respectively under thirty years of age.

There have been but few requests during the year for the admission of children under 14 years of age, but this may be largely due to the known policy of the sanatorium in refusing such cases. There are undoubtedly many children with early tuberculosis in the Commonwealth for whom a sanatorium school would be desirable.

The average age of discharged patients was twenty-seven years and seven months.

OCCUPATIONS.

At the time of the onset of the disease 92 per cent. of the patients admitted were engaged in indoor occupations. Of the women, 53 per cent. were engaged in housework, either as housewives or in domestic service; 17 per cent. were mill or factory operatives. Outside of these occupations the highest percentage of admissions were of women engaged in stores as clerks and salespeople, as stenographers or as nurses.

Among the men the following occupations were represented in this order of frequency: factory and mill operatives, clerks, salesmen, teamsters, laborers, machinists, tailors, shoe cutters, bookkeepers. Twenty-three men and 25 women gave their occupation as students.

RESULTS OF TREATMENT.

The number of patients under treatment this year has been 87 less than last year, although the daily average number in the sanatorium has been higher.

The average duration of sanatorium residence of discharged patients was six months and 22 days, or three weeks more than last year. The patients are generally loath to remain at the sanatorium the necessary three months after the disappearance of all signs of active disease, to be discharged as apparently cured cases, under the National Association classification. This, in a large measure, accounts for the increased number of patients discharged with the disease arrested rather than apparently cured.

The necessity of returning to work impels many to leave the sanatorium very soon after the disease has become arrested, and they feel themselves to have regained strength sufficient to resume their employment again. Better and more lasting results could be obtained in the majority of cases by a somewhat longer residence, particularly in the incipient cases, a larger proportion of whom could be discharged as apparently cured.

This year 37.15 per cent. of the cases were classified as incipient, 50.40 per cent. moderately advanced and 12.43 per cent. as far advanced.

Classification of cases is not made until the patients have been for a considerable time under treatment. No far-advanced cases are admitted as such, but many who appear on first examination to be but moderately advanced, and are so admitted, are found upon further study to have more extensive disease, or they have an extension of the disease or complications arising after admission which put them into the far-advanced class.

Of the 230 incipient cases discharged, 33.04 per cent. were apparently cured, 46.52 per cent. were arrested, 17.39 per cent. improved and 3.04 per cent. not improved.

There were 312 moderately advanced cases, and of these 8.01 per cent. were apparently cured, 37.5 per cent. arrested, 43.91 per cent. improved and 10.57 per cent. not improved.

The far-advanced cases number 77. None of this class were

discharged as apparently cured, but the disease was arrested in 15.58 per cent.; there was improvement in 48.5 per cent. and no improvement in 36.36 per cent.

Taking all classes of cases together, 16.31 per cent. were apparently cured, 38.12 per cent. were arrested, 34.57 per cent. were improved and 10.98 per cent. were not improved.

There were 7 deaths during the year, all from pulmonary tuberculosis with the exception of 1, which was caused by tubercular meningitis developing in a patient with a moderately advanced pulmonary lesion, after a sanatorium residence of about one month.

WEIGHT RECORD.

The weight records of 619 considered cases were as follows: the number who gained in weight was 573, — men, 300; women, 273; average gain, men, 13.1 pounds; women, 12.6 pounds. The number who lost weight was 46, — men, 25; women, 21; average loss, men, 5.7 pounds; women, 6.2 pounds; the greatest gain in weight, woman, 44 pounds; man, 41 pounds. The gain in weight serves as a fair index of the patients' general improvement. They usually gain rapidly in weight during the first four or five weeks of treatment, but after they have returned to their normal weight the increase is more gradual, and they may lose a few pounds or remain stationary for a period which is again followed by a weight increase, more gradual but fairly progressive if the disease is becoming arrested. The gain in weight, however, does not necessarily mean an arrest of the disease. Patients often gain largely in weight without any improvement in the pulmonary condition or even with advancing disease.

TUBERCLE BACILLI IN SPUTUM.

The sputum of 49.4 per cent. of the patients admitted had not been examined for tubercle bacilli before entrance, and of those examined 231 were positive and 77 negative. Tubercle bacilli were found in the sputum of 435, or 70.2 per cent., of the considered cases during their sanatorium residence. There were 20 patients who had no sputum at any time, and in 164 cases no bacilli were demonstrated in the sputum after repeated examinations.

The absence of tubercle bacilli from the sputum does not signify that the patient does not have tuberculosis, nor does their disappearance signify the cure of the disease. The presence of the bacilli indicates that there is a diseased area which is breaking down and the waste material is being excreted. Failure to find the bacilli, if the search has been thorough, indicates their destruction within the body or that they have become encapsulated in the tissues.

DIAGNOSTIC TUBERCULIN.

Tuberculin was given for diagnostic purposes in 23 cases, with a positive reaction in 19, — 7 men and 12 women. The ophthalmic tuberculin test was given to 9 patients previous to admission, with positive reaction. In 2 of these bacilli were later found in the sputum. The others had definite physical signs without sputum or with sputum which was negative for tubercle bacilli. The ophthalmic test was used a few times in the sanatorium, but its use is felt to be not without danger and has been discontinued, not because of any untoward effects observed by us but on account of adverse reports published.

The cutaneous tuberculin reaction has been resorted to in a few cases, with satisfactory results, and while it is too early to make any report as to its relative value, we feel that in it we have a safe and reliable diagnostic method.

HÆMOPTYSIS.

The presence of blood streaks in the sputum or the occurrence of frank pulmonary hemorrhage is very frequently an early symptom of tuberculosis, and often the one symptom which prompts the patient to seek medical advice.

In 44 per cent. of the considered cases such a hemorrhage occurred prior to entrance, and in many cases it was the first thing to arouse the suspicions of the patient as to the existence of a tubercular infection. In about 12 per cent. of the cases a hemorrhage occurred during the sanatorium residence. Within the year 4 deaths were directly the result of hæmoptysis. In 2 of these repeated hemorrhages occurred over a number of weeks before death, 1 developing pneumonia following a

profuse hemorrhage, and 1, without a hemorrhagic history, dying within a few minutes from the onset of an enormous hemorrhage occurring only six days after entrance. — a patient with physical signs of a lesion involving but a small area of the right upper lobe.

During several months work has been done upon the coagulation time of the blood of patients upon admission, and of hemorrhagic cases. This work is proving productive of interesting results, but the number of observations is not yet sufficient, nor have they been continued over a long enough period of time to warrant the publication of results. In a general way it may be said that the coagulation time is much prolonged in hemorrhagic cases and it seems probable that this procedure may prove of value in determining the cases liable to hæmoptysis.

AFTER-CARE WORK.

In the last annual report mention was made of after-care work about to be undertaken, with the co-operation of the Boston Association for the Relief and Control of Tuberculosis. There have been unavoidable delays in beginning this work, and the plan has only been in operation during the last month.

The secretary of the association visits the sanatorium weekly, interviews patients about to be discharged relative to the possibility or desirability of improving the home conditions, or of obtaining suitable employment, and through correspondence and personal interviews with employers seeks to put the patient in a position to continue the benefits he has received by his sanatorium treatment while making a living for himself and others who may be depending upon him. The establishment of a bureau or agency under State supervision for carrying on this work has been frequently urged in these reports.

MEDICAL TREATMENT.

In the treatment of patients coming to the sanatorium we continue to place our reliance upon an open-air, hygienic and dietetic régime under watchful supervision, the aim being to build up the general health and so increase the patient's natural bodily resistance to bacterial infection, which has been reduced

by the vicissitudes of life. Medicinal agents are used, not for any specific effect, but for the alleviation of certain of the symptoms arising in the course of the disease.

The various tuberculin preparations have been used as heretofore for therapeutic purposes in a small number of cases. Our use of tuberculin has been confined to certain patients who have been for some time under treatment in the sanatorium without making any material progress, or who, after a certain period of improvement, have failed to respond further to treatment. Tuberculin (B.F.) bouillon filtrate is the preparation which has given us the most satisfactory results.

From our experience with tuberculin preparations, when used either for diagnosis or therapeutic purposes, we feel that the greatest caution should be used in their administration. We believe that their use under conditions where it is not possible to keep the patient under constant and skillful supervision is fraught with great danger.

While we believe that for all patients rest is essential during the early period of treatment, and for many a prolonged rest is imperative, yet we feel that regular and systematic graduated exercise is of much value in the treatment of tuberculosis. A certain amount of work is allotted to each patient as a part of his treatment, and the allotment is increased as the physical condition permits.

We shall attempt, during the coming year, to have this work more systematically supervised, and to devote more attention to the development of out-of-door work.

ENTERTAINMENTS.

The routine of sanatorium life is made less irksome for the patients by occasional entertainments in the assembly hall or out-of-door sports at suitable seasons. Musical and dramatic entertainments are gotten up by the patients, employees and officers, and to defray the expenses of these, or to provide funds for some special purpose, such as the support of the baseball team or the buying of new books for the library, a small admission fee is charged. The only fund available for amusement purposes is that obtained in this way.

On special occasions, such as the Fourth of July, Christmas

and field day, the patients make up a purse and themselves finance the celebration. This year being the tenth anniversary of the opening of the sanatorium the field day of October 10 (the date of opening) was observed with unusual interest, by sports, music and an evening entertainment, and a large number of former patients came to take part in the festivities.

For several years a baseball team has been regularly organized among patients and employees, the latter furnishing most of the players. The players are carefully selected, and are allowed to play only with the full consent of their physicians. There have been no ill results from these games upon the physical condition of the patients, and the regular Saturday afternoon game is an established feature of the sanatorium, — a never-failing source of pleasure to all the inmates.

Of no less importance in the cultivation of a happy and contented spirit is the library, which contains about 2,000 volumes, and which at all seasons is of inestimable value, especially to those patients who are at enforced total rest either in bed or reclining on the verandas.

From time to time we have donations of current light literature, which are always gratefully received, and all new additions to the library are eagerly welcomed by the patients.

SUBSEQUENT HISTORY OF DISCHARGED PATIENTS.

In the statistical tables this year will be found a report of the subsequent history of patients discharged up to Dec. 1, 1907. Effort has been made during the last six months to get into communication with all discharged patients. We have been unable to get any report from about one-third of the considered cases, but the returns have been sufficient to demonstrate a very satisfactory percentage of lasting results.

In the nine years under consideration 4,311 considered cases were discharged; by considered cases we mean those who remained in the sanatorium more than one month. Of this number 36.5 per cent. report themselves as able to work, 3.6 per cent. as not able to work. We were unable to trace 32.9 per cent., and 26.7 were reported dead.

If we consider only those patients about whom we were able to get definite information, of whom there were 2,890, we find

that 54.5 per cent. are still able to work. By this phrase we mean to do an ordinary day's work. Sixty per cent. of those heard from are living. Of those known to be living 90.9 per cent. were reported as able to work.

We have made a further summary of the results in those cases which were discharged with the disease apparently cured and arrested. In this class there were 1,871 patients, of whom 941, or 50.2 per cent., are able to work, 2.5 per cent. are not able to work, 8.5 per cent. have died and 38.5 per cent. were not traced. If again we consider only those patients in this class from whom definite information was obtained we find 81.9 per cent. able to work, 4.1 per cent. not able to work and 13.9 per cent. dead. Of those known to be living 94 per cent. are able to work.

Table XV., giving the subsequent history of apparently cured and arrested cases discharged in each year, is divided into three periods of three years each. It is very gratifying to note the present satisfactory condition of so many of those under treatment during the first three years' period and who have been away from the sanatorium for seven years. Of these, 42.6 per cent. are able to work, 40.5 per cent. were untraced and 16.5 per cent. are dead. Of those whose record could be obtained 59.4 per cent. are able to work. Only 1 man of those reporting for this period was not working.

It is very probable that a fair proportion of the untraced cases are in good condition, but even without these the record speaks well for the permanency of the improvement following sanatorium treatment.

LABORATORY.

The laboratory has been enlarged by the addition of another room, which has been fully equipped with apparatus for fat extraction, nitrogen determination, etc., and it is planned to carry on work in metabolism, particularly on the absorption of fat.

In addition to the routine laboratory work there has been a considerable amount of work done upon milk analysis, opsonic work and the preparation of vaccines. The opsonic work, proving of little practical value, has been discontinued.

INVITATION TO MEDICAL VISITORS.

It is very desirable that the physicians of the Commonwealth be brought into closer touch with the sanatorium and its work. Medical visitors are always welcome, and we will always be pleased to place accommodations at the disposal of any physician who may wish to spend two or three days in the sanatorium familiarizing himself with the method of treatment and the class of patients desired, and allow him such clinical advantages as the sanatorium affords.

The Rutland Clinical Club meets at the sanatorium twice each month during the winter. The following is a list of the papers read at this meeting during the past year:—

Diseases of the Accessory Sinuses of the Nose, Dr. A. C. Getchell.

Tuberculosis of the Tongue, Dr. G. N. Lapham.

Office Gynecology, Dr. J. P. Rand.

The Semi-Insane, Dr. P. C. Bartlett.

Tuberculosis of the Larynx, Dr. J. E. Runnells.

Abnormal Acid Conditions in the Stomach, Dr. Marsden.

Removal of Thyroid Gland in Exophthalmic Goiter, Dr. E. L. Hunt.

Reports from meetings of International Congress on Tuberculosis,

Dr. F. L. Hills, Dr. G. N. Lapham and Dr. P. C. Bartlett.

Exercise in Tuberculosis, Dr. B. S. Putts.

Tubercular Laryngitis, Dr. A. C. Getchell.

IMPROVEMENTS.

The men's recreation pavilion was completed and occupied in the spring. It is equipped with a pool table and six tables for cards and checkers. It has afforded a much needed source of amusement and recreation and is greatly appreciated by the men.

Covered verandas have been built on the east side of wards A and D, connected with the center of the wards by a door and affording additional space for patients sleeping out of doors. An uncovered veranda connects these with the old verandas at the south end of the wards. A new uncovered veranda has been built on ward E, replacing a temporary structure built two years ago.

The stucco has been renewed on wards A, B, C, D, E, F, I and J, the connecting corridors and the front of the domestic building.

The roofs and the outside woodwork on all of the buildings have been painted during the summer; also nearly all of the interior walls have been painted and the woodwork varnished in all of the buildings except the assembly hall and the administration building.

The physical condition of the plant has been materially improved by these expenditures. There is still about 1,100 square yards of the old stucco to be renewed in the rear of the long corridor, the domestic building and wards N and O.

A house for the head farmer, for which an appropriation of \$3,500 was made in 1906, has been erected and is now occupied.

A new cow barn, for which an appropriation of \$9,000 was granted by the last Legislature, is nearing completion. It is located near the center of the farm, south of the central elm road, and will accommodate 60 head of cattle.

The new hennery has been established west of the sanatorium buildings. It consists of a group of 15 open-front colony houses, a central storehouse and a sleeping shack for the poultry man. The latter is an ex-patient, experienced in poultry raising. We plan to have patients work under him to whom may be given practical instruction, enabling them to take up the poultry business as a means of livelihood after leaving the sanatorium.

Necessary changes are now under way in the infirmary to furnish and equip an operating room on the second floor.

A new metallic dry room has been installed in the laundry, and the use of the wooden dry room in the old laundry discontinued since August.

Repairs have been made upon the sewer line to the filter beds, the pipe being relaid through wet land, where much surface water was being taken in. Every effort is being made to keep the filter beds in good working order, but it is felt that their surface is inadequate for the work required of them. Test pits have been dug on the surrounding land, surveys have been made, and estimates obtained for an enlargement by the building of two additional beds. This work has not been undertaken, as it was found that the balance of the appropriation was inadequate for its completion under the specifications.

IMPROVEMENTS DESIRED.

In order to complete the renewal of the old stucco we desire an appropriation of \$1,375. With this work done the outside walls of the buildings will be in a very satisfactory condition.

More covered veranda space is necessary to accommodate the patients whom it is desirable to have sleep out of doors, and for the patients sitting out during the day in stormy weather.

The corridor floors are in a deplorable condition and urgently in need of renewal. The present floors are both unsightly and unsanitary.

We need very much suitable accommodations for the nurses, who are now housed in close proximity to the wards and are occupying room which could be better used for patients. A separate building, accommodating 25 persons, to be used as a nurses' home, is desired. Such a building can be erected and equipped for \$15,000.

We would again urge the need of an elevator in the infirmary for moving acutely ill patients. This need will be even more apparent when the operating room, now being prepared, is ready for use, by February 1.

An X-ray outfit is needed for use in the diagnosis and study of many cases coming under our care, and would be a much appreciated and valuable addition to our equipment.

The completion of the new barn will place us in a position to increase our herd of cows. The number lost by tuberculosis in 1907 has not been replaced. We ask for an appropriation sufficient for the renewal of the herd.

Last year no money was appropriated for the improvement of the grounds. The balance of a small appropriation was used and considerable work done about the east wards. There is still much to be done in the way of making lawns and walks about the buildings, setting out shrubbery, etc. It is hoped that we may again be granted a small appropriation for this purpose.

The removal of the coal trestle at Muschopauge station to the opposite side of the track would increase our coal-storage capacity and would make it possible to change the site of the present station, and thus eliminate a dangerous grade crossing.

ACKNOWLEDGMENTS.

To Dr. Bayard T. Crane, superintendent of the Maryland State Sanatorium, we are greatly indebted for the gift of the Kathleen M. Crane Memorial Pavilion, which he has presented to the sanatorium for the use of the nurses.

To the many friends who have from time to time remembered us with donations of books for the library, magazines, clothing and other contributions for the welfare of patients, we are sincerely grateful.

MEDICAL SERVICE.

Dr. B. S. Putts resigned in November to enter private practice in Pittsburg, Pa. He was a most capable physician and a faithful and conscientious officer. His retirement from the medical staff is much to be regretted.

Dr. Charles A. Redick resigned on Jan. 28, 1908, on account of ill health.

The laboratory work has been under the supervision of Mr. Clarence N. Murphy, who had previously served the sanatorium as pharmacist.

There have been no other changes in the medical staff during the year.

Miss Ruth M. Montague, who for three years had rendered most efficient service as dietitian, resigned September 25, to accept a position of dietitian and housekeeper in the Rhode Island State Sanatorium. She has been succeeded by Miss Ethel Heald of Rutland, a graduate of Simmons College.

I wish to acknowledge my gratitude to all of the officers, nurses and employees for their loyalty and faithful attention to duty. The success of our work is dependent upon the ready co-operation of all, working with singleness of purpose for the good of those under our care.

To your honorable Board I wish to express my sincere appreciation of your advice and assistance and to thank you most heartily for your support.

Respectfully submitted,

FREDERICK L. HILLS,

Superintendent.

TREASURER'S REPORT.

To the Trustees of the Massachusetts State Sanatorium.

The following is a statement of the receipts and expenditures of the Massachusetts State Sanatorium for the year ending Nov. 30, 1908:—

RECEIPTS.

Cash on hand Dec. 1, 1907, as per eleventh annual report, .	\$5,045 38
Received from State Treasurer and Receiver-General on current expense appropriation,	172,137 78
Received from State Treasurer and Receiver-General deficit appropriation on current expense, 1907,	20,578 15
Received from State Treasurer and Receiver-General on special appropriations,	21,724 82
Received from patients for board and treatment,	41,643 48
Received from cities and towns for support of patients,	5,515 70
Received from State minor wards' relief and from charitable associations for support of patients,	3,652 54
Received from patients for hospital and cuspidor supplies,	1,648 69
Received from patients for freight and express,	7 09
Received from patients for telephone and telegraph,	266 46
Received from patients for stationery and office supplies,	131 96
Received from patients for sundries,	351 04
Received from sale of farm products,	2,573 33
Received from sale of grease,	1,511 51
Received from sale of other merchandise,	416 00
Received as interest on bank balance,	133 82
	\$277,337 75

EXPENDITURES.

Salaries, wages and labor,	\$47,968 22
Food:—	
Butter,	\$5,562 48
Butterine,	201 87
Beans,	49 49
Bread and crackers,	89 33
	\$5,903 17
<i>Amounts carried forward,</i>	<i>\$47,968 22</i>

<i>Amounts brought forward,</i>			\$5,903 17	\$47,968 22
Cereals, rice, meal, etc.,	.	.	805 73	
Cheese,	.	.	200 20	
Eggs,	.	.	8,700 97	
Flour,	.	.	2,524 85	
Fish,	.	.	2,479 62	
Dried and fresh fruit,	.	.	2,871 62	
Meats,	.	.	35,613 04	
Milk,	.	.	11,557 86	
Molasses and syrup,	.	.	61 85	
Sugar,	.	.	1,833 61	
Tea, coffee, broma and cocoa,	.	.	999 75	
Vegetables,	.	.	3,791 70	
Sundries,	.	.	413 33	
			<hr/>	77,757 30
Furnishings: —				
Beds, bedding, table linen, etc.,	.	.	\$1,603 72	
Brushes, brooms, etc.,	.	.	269 81	
Carpets, rugs, etc.,	.	.	6 96	
Crockery, glassware, cutlery, etc.,	.	.	1,111 61	
Furniture and upholstery,	.	.	122 25	
Kitchen furnishings,	.	.	265 87	
Wooden ware, buckets, pails, etc.,	.	.	29 47	
Sundries,	.	.	—	
			<hr/>	3,409 69
Heat, light and power: —				
Coal,	.	.	\$11,269 97	
Wood,	.	.	122 50	
Oil,	.	.	207 49	
Sundries,	.	.	108 30	
			<hr/>	11,708 26
Repairs and improvements: —				
Cement, lime and plaster,	.	.	\$12 40	
Doors, sashes, etc.,	.	.	—	
Electrical work and supplies,	.	.	321 11	
Hardware, iron, steel, etc.,	.	.	335 26	
Lumber,	.	.	253 64	
Machinery, etc.,	.	.	8 38	
Paints, oil, glass, etc.,	.	.	368 92	
Plumbing, steam fittings and supplies,	.	.	616 77	
Roofing and materials,	.	.	72 36	
Mechanics and laborers (not on pay roll),	.	.	1,976 90	
Sundries,	.	.	4 96	
			<hr/>	3,970 70
<i>Amount carried forward,</i>	.	.		\$144,814 17

Amount brought forward, \$144,814 17

Farm, stable and grounds: —

Blacksmith and supplies,	\$131 30
Carriages, wagons, etc., and repairs,	90 28
Fertilizers, vines, seeds, etc.,	548 63
Hay, grain, etc.,	2,113 55
Harnesses and repairs,	80 75
Horses,	225 00
Labor (not on pay roll),	1,124 34
Tools, farm machines, etc.,	139 26
Sundries,	13 85

4,466 96

Miscellaneous: —

Books, periodicals, etc.,	\$31 60
Chapel services and entertainments,	260 00
Freight, expressage and transportation,	1,132 55
Hose, etc.,	14 20
Ice,	82 42
Medicines and hospital supplies,	3,240 99
Medical attendance (extra),	—
Examination of applicants,	1,898 82
Postage,	744 90
Printing and printing supplies,	724 79
Cuspidor supplies,	2,508 86
Soap and laundry supplies,	1,903 58
Stationery and office supplies,	396 23
Travel and expenses (officials),	438 96
Telephone and telegraph,	780 60
Water,	1,979 92
Sundries,	703 78
Tobacco,	1 50

16,843 70

\$166,124 83

Extraordinary expense,	\$3,512 95
Extraordinary expense, special appropriations,	21,724 82
Sent to State Treasurer cash on hand Dec. 1, 1907, as per the eleventh annual report,	5,045 38
Sent to State Treasurer cash receipts of current year,	57,851 62
Cash on hand,	2,500 00
Liabilities of 1907, paid this year,	20,578 15

111,212 92

\$277,337 75

LIABILITIES.

Salaries unpaid,	\$4,257 82	
Food:—		
Butter,	\$611 17	
Butterine,	16 58	
Beans,	6 88	
Bread and crackers,	7 94	
Cereals, rice, meal, etc.,	38 67	
Cheese,	21 15	
Eggs,	1,028 07	
Flour,	2 91	
Fish,	188 34	
Dried and fresh fruit,	137 68	
Meats,	2,822 35	
Milk,	956 05	
Sugar,	9 43	
Tea, coffee and cocoa,	91 09	
Vegetables,	182 35	
Sundries,	32 55	
		6,153 21
Furnishings:—		
Beds, bedding, table linen, etc.,	\$498 29	
Carpets, rugs, etc.,	85 00	
Crockery, glassware, cutlery, etc.,	39 84	
Furniture and upholstery,	—	
Wooden ware, buckets, pails, etc.,	3 00	
		626 13
Heat, light and power:—		
Coal,	\$185 91	
Oil,	13 30	
		199 21
Repairs and improvements:—		
Cement, lime and plaster,	\$17 93	
Electrical work and supplies,	30 18	
Hardware, iron, steel, etc.,	7 33	
Lumber,	43 85	
Plumbing, steam fittings and supplies,	21 39	
Roofing and materials,	2 58	
Mechanics and laborers,	257 69	
Sundries,	3 50	
		384 45
Amount carried forward,	\$11,620 82	

Amount brought forward, \$11,620 82

Farm, stable and grounds:—

Blacksmith and supplies,	\$29 00
Carriages, wagons, etc., and repairs,	120 15
Fertilizers, vines, seeds, etc.,	10 00
Hay, grain, etc.,	359 17
Labor (not on pay roll),	102 00
Tools, farm machines, etc.,	7 20
Sundries,	3 85

631 37

Miscellaneous:—

Chapel services and entertainments,	\$290 00
Freight, expressage and transportation,	171 44
Medicines and hospital supplies,	146 16
Medical attendance, nurses, etc. (extra),	30 00
Examining applicants,	254 11
Postage,	5 23
Printing and printing supplies,	59 70
Cuspidor supplies,	39 60
Soap and laundry supplies,	90 19
Stationery and office supplies,	97 12
Travel and expenses (officials),	107 89
Telephone and telegraph,	148 04
Water,	374 08
Sundries,	51 65

1,865 21

\$14,117 40

Extraordinary expense, 1,127 03

\$15,244 43

SUMMARY OF CURRENT EXPENSES.

Total expenditures,	\$166,124 83
Unpaid bills,	14,117 40

\$180,242 23

Deducting amount of sale of supplies, 4,332 75

\$175,909 48

Adding decrease of supplies, 5,582 32

\$181,491 80

Dividing this amount by the daily average number of patients, 339, gives an average annual cost of \$535.37, equivalent to an average weekly net cost of \$10.23+.

The increase of 16 cents in the per capita cost over that of last year is due almost entirely to the increased cost of milk, and to the fact that we were compelled to buy a larger quantity of milk on account of the loss of one-half of our herd of cows last winter. We have been able to make milk contracts for the coming year at the old rate, $4\frac{1}{2}$ cents, and expect to increase our herd when the new cow barn is occupied in the spring.

Respectfully submitted,

FREDERICK L. HILLS,

Treasurer.

RUTLAND, MASS., Jan. 13, 1909.

I have this day examined the accounts of the treasurer of the Massachusetts State Sanatorium, and have found them correct.

C. E. WATSON,

Expert Accountant.

SPECIAL APPROPRIATIONS.

HOSPITAL FOR CONSUMPTIVES LOAN FUND.

Unexpended balance,	\$280 30
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NEW FARMHOUSE.

Resolves 1906, Chapter 83.

Appropriation,	\$3,500 00
Expended,	3,450 62
	\$49 38
Balance available,	\$49 38

PIGGERY.

Resolves 1906, Chapter 83; Resolves 1907, Chapter 98.

Appropriation,	\$1,000 00
Expended,	995 69
	\$4 31
Balance available,	\$4 31

GRADING.

Resolves 1907, Chapter 98.

Appropriation,	\$500 00
Expended,	427 76
	\$72 24
Balance available,	\$72 24

PAVILION.

Resolves 1907, Chapter 98.

Appropriation,	\$2,000 00
Expended,	1,960 11
	\$39 89
Balance available,	\$39 89

PIAZZAS.

Resolves 1907, Chapter 98.

Appropriation,	\$2,000 00
Expended,	1,992 52
	<hr/>
Balance available,	\$7 48

NEW COW BARN.

Resolves 1908, Chapter 93.

Appropriation,	\$9,000 00
Expended,	5,728 53
	<hr/>
Balance available,	\$3,271 47

FILTER BED.

Resolves 1908, Chapter 93.

Appropriation,	\$1,000 00
Expended,	135 29
	<hr/>
Balance available,	\$864 71

HENNERY.

Resolves 1908, Chapter 93.

Appropriation,	\$900 00
Expended,	774 04
	<hr/>
Balance available,	\$125 96

HENNERY EQUIPMENT AND PURCHASE OF HENS.

Resolves 1908, Chapter 93.

Appropriation,	\$900 00
Expended,	523 21
	<hr/>
Balance available,	\$376 79

METALLIC DRYING ROOM.

Resolves 1908, Chapter 93.

Appropriation,	\$700 00
Expended,	680 00
	<hr/>
Balance available,	\$20 00

OPERATING ROOM AND EQUIPMENT.

Resolves 1908, Chapter 93.

Appropriation,	\$1,000 00
Expended,	—
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Balance available,	\$1,000 00

PAINTING WARDS AND OUTSIDE WORK AND ROOFS.

Resolves 1908, Chapter 93.

Appropriation,	\$4,500 00
Expended,	4,129 53
<hr/>	
Balance available,	\$370 47

REPAIRS ON OUTSIDE WALLS.

Resolves 1908, Chapter 93.

Appropriation,	\$2,000 00
Expended,	1,993 58
<hr/>	
Balance available,	\$6 42

FARM ACCOUNT.

The farm account is as follows:—

DR.

Products of the farm on hand, as estimated Dec. 1, 1907, .	\$1,956 00
Blacksmith,	98 60
Board of men,	1,399 00
Carriage and wagon repairs,	24 75
Coal,	110 40
Grain and feed for stock,	2,545 72
Harness repairs,	19 65
Labor,	6,379 89
Seeds and fertilizers,	425 18
Sundries,	12 05
Tools, machinery and repairs,	70 50
Waste from sanatorium kitchen,	200 00
	<hr/>
	\$13,241 74

CR.

Board of four driving horses, at \$20 per month,	\$960 00
Labor for sanatorium putting in ice, hauling provisions from station, etc.,	1,748 43
Milk supplied, as per list following, 54,075 quarts, at \$0.05,	2,703 75
Fruit and vegetables supplied, as per list following,	1,099 44
Beef supplied, as per list following,	100 89
Pork supplied, as per list following,	31 23
Cider supplied, as per list following,	5 20
Fertilizer supplied, as per list following,	60 00
Oats, hay and straw,	3 27
Sold:—	
Hogs,	1,997 57
Deceased cattle,	500 76
Horse,	75 00
Grease,	200 00
Products of farm on hand, as estimated Dec. 1, 1908, per list following,	2,768 00
	<hr/>
<i>Amount carried forward,</i>	<i>\$12,253 54</i>

<i>Amount brought forward,</i>	\$12,253 54
Stock on hand Dec. 1, 1908,	326 80
Increase of live stock,	436 00
	<hr/>
	\$13,016 34
Deficit against farm,	225 40
	<hr/>
	\$13,241 74

PRODUCTS OF THE FARM DELIVERED TO THE SANATORIUM DURING THE
YEAR ENDING NOV. 30, 1908.

Apples, 5 barrels, at \$1.25 to \$1.75 per barrel,	\$8 01
Beans, shell, 7 bushels, at \$0.50 to \$1.25 per bushel,	5 63
Beans, wax, 23½ bushels, at \$0.75 to \$1 per bushel,	21 50
Beef, 1,165 pounds, at \$0.08 to \$0.09 per pound,	100 89
Beets, 70½ bushels, at \$0.50 to \$1 per bushel,	41 58
Cabbage, 2,060 pounds, at \$0.00¾ to \$0.01¼ per pound,	19 89
Carrots, 176 bushels, at \$0.50 to \$0.75 per bushel,	88 11
Cauliflower, 175½ dozen, at \$0.06 to \$0.12½ per head,	169 45
Celery, 148½ dozen, at \$0.50 to \$0.75 per dozen,	107 94
Cider, 52 gallons, at \$0.10 per gallon,	5 20
Corn, 799 dozen, at \$0.10 to \$0.15 per dozen,	83 00
Cucumbers, 28,543, at \$0.12½ to \$0.50 per hundred,	50 14
Fertilizer, 20 loads, at \$3 per load,	60 00
Leeks, 239 bunches, at \$0.20 to \$0.40 per bunch,	45 00
Lettuce, 319½ dozen, at \$0.13½ to \$0.50 per dozen,	115 13
Milk, 54,075 quarts, at \$0.05 per quart,	2,703 75
Onions, 37 bushels, at \$0.50 to \$0.60 per bushel,	} 28 10
Onions, 368 bunches, at \$0.01½ to \$0.04 per bunch,	
Parsley, 15½ pecks, at \$0.15 to \$1 per bushel,	1 61
Parsnips, 43 boxes, at \$0.50 to \$0.90 per box,	22 70
Peas, 20½ boxes, at \$1 per box,	20 50
Peppers, 252 quarts, at \$0.50 to \$0.80 per bushel,	5 62
Pork, 347 pounds, at \$0.09 per pound,	31 23
Potatoes, 29½ bushels, at \$0.75 to \$0.85 per bushel,	35 01
Radishes, 13 boxes, at \$0.40 to \$0.75 per box,	7 65
Rhubarb, 352 pounds, at \$0.01 per pound,	3 52
Spinach, 32½ boxes, at \$0.15 to \$0.20 per box,	6 05
Squash, marrow, 10,182 pounds, at \$0.60 to \$1 per hundred pounds,	63 97
Squash, summer, 1,762 pounds, at \$0.02 to \$0.02½ each,	36 52
Tomatoes, 179 bushels, at \$0.50 to \$1.75 per bushel,	99 83
Tomatoes, green, 7¼ bushels, at \$0.40 per bushel,	2 90
Turnips, 26¼ bushels, at \$0.35 to \$0.50 per bushel,	10 08
	<hr/>
	\$4,000 51

PRODUCTS OF THE FARM ON HAND DEC. 1, 1908.

Hay, 100 tons, at \$15,	\$1,500 00
Ensilage, 150 tons, at \$5,	750 00
Fertilizer, 170 loads, at \$2,	340 00
Carrots, 150 bushels, at \$0.60,	90 00
Ice, 40 tons, at \$1,	40 00
Lettuce, 40 dozen, at \$0.60,	24 00
Apples, 8 barrels, at \$3,	24 00
	<hr/>
	\$2,768 00

STOCK ON HAND.

Wood, 40 cords, at \$4,	\$160 00
Ground bone, 70 bags, at \$1.20,	84 00
Coal, 12 tons, at \$6.90,	82 80
	<hr/>
	\$326 80

REAL AND PERSONAL ESTATE.

REAL ESTATE.

Buildings,	\$445,020 00
Land,	45,792 00
	<hr/> \$490,812 00

PERSONAL ESTATE.

Live stock on the farm,	\$5,556 00
Produce of the farm on hand,	2,768 00
Carriages and agricultural implements,	1,719 00
Machinery and mechanical fixtures,	1,968 60
Beds and bedding in inmates' department,	8,522 00
Other furniture in inmates' department,	1,800 00
Other miscellaneous furniture,	7,600 00
Personal property of State in superintendent's department,	1,650 00
Ready-made clothing,	600 00
Dry goods,	2,651 22
Provisions and groceries,	1,214 48
Drugs and medicines,	827 89
Fuel,	3,044 60
Library,	1,000 00
Other supplies undistributed,	1,243 43
	<hr/> 42,165 22
	<hr/> \$532,977 22

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number of patients present at beginning of fiscal year.	183	158	341
Number received during year,	420	390	810
Number discharged during year,	414	390	804
Number of deaths included in preceding item, .	8	—	8
Number at end of the fiscal year,	189	158	347
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	183	156	339
Average number of officers and employees during the year.	93	64	157

Expenditures.

Current expenses:—

1. Salaries and wages,	\$47,968 22	
2. Clothing,	—	
3. Subsistence,	77,757 30	
4. Ordinary repairs,	3,970 70	
5. Office, domestic and out-door expenses,	36,428 61	
Total,	—	\$166,124 83

Extraordinary expenses:—

1. New buildings, land, etc.,	\$13,407 41	
2. Permanent improvements to existing buildings,	11,830 36	
Total,	—	25,237 77

Grand total, \$191,362 60¹

¹ Includes only money actually expended during the year, and does not represent total cost of maintenance, which includes unpaid bills of \$15,244.43.

LIST OF WAGES.

Superintendent and treasurer (per annum),	\$2,500 00
Physician (per annum),	1,400 00
Physician (per annum),	1,000 00
Assistant physician (per annum),	600 00
Assistant physician (per annum),	200 00
Matron and superintendent of nurses (per annum),	1,200 00
Steward (per annum),	1,200 00
Bookkeeper (per month),	40 00
Chief engineer (per month),	90 00
Dietitian (per month),	45 00
Dietitian's assistant (per month),	25 00
Farmer (per annum),	900 00
Stenographer (per month),	35 00
Nurses, day (per month),	\$30 00 to 40 00
Nurses, night (per month),	40 00
Attendants (per month),	\$13 00 to 30 00
Supervisors, male (per month),	15 00 to 35 00
Supervisors, female (per month),	17 00
Office assistant (without living),	30 00
Cook (per month) (without living),	85 00
Baker (per month) (without living),	80 00
Assistant cook (per month) (without living),	50 00
Engineers and firemen (per month) (without living),	\$50 00 to 60 00
Firemen (per month),	30 00 to 40 00
Carpenter (per day) (without living),	2 70
Carpenter (per month),	25 00
Night attendant (per month) (without living),	48 00
Diet cook (per month),	17 00
Head laundress (per month),	30 00
Storeroom man (per month),	35 00

Storeroom man helper (per month),	\$16 00
Storekeeper (per month),	18 00
Pharmacist (per month),	18 00
General work, male and female (per month), . . .	\$10 00 to 25 00
Laundry help, male (per month),	16 00 to 25 00
Laundry help, female (per month),	15 00 to 20 00
Ward help, male (per month),	15 00 to 25 00
Kitchen help, male (per month),	15 00 to 35 00
Expressman (per month),	28 00
Waiters, male (per month),	\$13 00 to 18 00
Serving room men (per month),	14 00 to 18 00
Waiters, female (per month),	13 00 to 19 00
Serving room girls (per month),	12 00 to 15 00
Diet kitchen girls (per month),	12 00 to 16 00

STATISTICAL TABLES.

STATISTICAL TABLES

FOR THE YEAR ENDING NOV. 30, 1908.

TABLE I. — *Admissions and Discharges.*

	Men.	Women.	Totals.
Number of patients in sanatorium Dec. 1, 1907, .	183	158	341
Number admitted Nov. 30, 1907, to Dec. 1, 1908, .	420	390	810
Number discharged Nov. 30, 1907, to Dec. 1, 1908, .	414	390	804
Number of deaths (included in preceding items), .	8	—	8
Number remaining in sanatorium Nov. 30, 1908, .	189	158	347
Daily average number of patients,	183	156	339

TABLE II. — *Monthly Admissions and Discharges, with Average Monthly Population.*

DATE.	ADMITTED.		DISCHARGED.		Daily Average.
	Men.	Women.	Men.	Women.	
1907.					
December,	35	26	35	27	340
1908.					
January,	27	27	22	26	344
February,	33	24	40	26	343
March,	43	33	35	33	339
April,	34	34	38	37	338
May,	35	36	37	33	337
June,	42	47	41	47	337
July,	34	32	31	34	338
August,	40	33	52	39	333
September,	43	49	28	41	329
October,	33	24	35	24	341
November,	21	25	20	23	345

TABLE III. — *Distribution of Examinations.*

PLACE OF EXAMINATION.	Number.
Boston, Massachusetts General Hospital, . . .	1,729
Rutland,	310
Worcester City Hospital,	122
Fall River,	88
Lowell,	84
Springfield,	69
Pittsfield,	36
Northampton,	34
Greenfield,	10
Worcester, Hahnemann Hospital,	3
Total,	2,485

TABLE IV. — *Residence of Patients admitted.*

COUNTIES.	Men.	Women.	Totals.
Suffolk,	159	133	292
Middlesex,	77	82	159
Essex,	45	47	92
Worcester,	46	42	88
Bristol,	25	22	47
Plymouth,	20	15	35
Norfolk,	14	18	32
Hampden,	15	18	33
Berkshire,	8	9	17
Hampshire,	9	3	12
Franklin,	2	—	2
Barnstable,	—	1	1
Totals,	420	390	810

TABLE V. — *Nativity of Patients admitted.*

BORN IN —	Men.	Women.	Totals.	BORN IN —	Men.	Women.	Totals.
United States, .	285	286	571	Norway, .	3	2	5
Austria, .	3	—	3	Poland, .	3	1	4
Armenia, .	4	2	6	Russia, .	25	14	39
Canada, .	24	39	63	Scotland, .	2	1	3
England, .	10	6	16	Sweden, .	8	7	15
Finland, .	3	1	4	Syria, .	2	—	2
France, .	2	—	2	Turkey, .	1	—	1
Germany, .	5	6	11	West Indies, .	1	—	1
Greece, .	1	—	1				
Ireland, .	32	24	56	Totals, .	420	390	810
Italy, .	6	1	7				

American born, foreign parentage:—

TABLE V. — *Nativity of Patients admitted — Concluded.*

FATHER BORN IN —	Men.	Women.	Totals.	FATHER BORN IN —	Men.	Women.	Totals.
Azores, .	2	—	2	Norway, .	1	—	1
Brazil, .	1	—	1	Poland, .	1	1	2
Canada, .	22	30	52	Russia, .	7	3	10
England, .	8	10	18	Scotland, .	5	7	12
Finland, .	1	1	2	Spain, .	1	—	1
France, .	2	—	2	Sweden, .	4	2	6
Germany, .	7	6	13				
Ireland, .	76	76	152	Totals, .	139	136	275
Italy, .	1	—	1				

TABLE VI. — *Civil Condition of Patients admitted.*

	Men.	Women.	Totals.
Married,	162	166	328
Single,	246	210	456
Widowed,	10	11	21
Divorced,	2	3	5
Totals,	420	390	810

TABLE VII. — *Age of Patients admitted.*

	Men.	Women.	Totals.
14 to 20 years,	74	73	147
20 to 30 years,	184	185	369
30 to 40 years,	100	94	194
40 to 50 years,	59	34	93
Over 50 years,	3	4	7
Totals,	420	390	810

TABLE VIII. — *Occupations.*

	Men.	Women.		Men.	Women.
Actors,	3	—	Cash boy,	1	—
Artist,	1	—	Cashiers,	—	2
Attendants,	3	—	Chauffeurs,	2	—
Barbers,	6	—	Cigar maker,	1	—
Bartender,	1	—	Clerks,	64	14
Bookbinders,	1	3	Conductors, electric rail- way.	5	—
Bookkeepers,	9	3	Conductor, steam rail- way.	1	—
Bottlers,	2	—	Cook,	1	—
Brewer,	1	—	Dentist,	1	—
Bundle girls,	—	2	Designer,	1	—
Butlers,	2	—	Domestics,	—	19
Cabinet maker,	1	—	Draftsman,	1	—
Canvassers,	1	1	Dressmakers,	—	8
Carpenters,	3	—	Electricians,	7	—
Carriage maker,	1	—	Engineers, stationary, . .	5	—

TABLE VIII. — *Occupations* — Continued.

	Men.	Women.		Men.	Women.
Engineer, civil, . . .	1	—	Minister, . . .	1	—
Engraver, . . .	1	—	Motorman, . . .	1	—
Factory and mill oper- atives.	67	67	Musicians, . . .	3	—
Farmers, . . .	8	—	Music teachers, . . .	—	2
Fireman, stationary, . .	1	—	Newspaper reporter, . .	1	—
Fisherman, . . .	1	—	No work, . . .	—	2
Foremen, . . .	4	—	Nurse maids, . . .	—	4
Furs, . . .	1	—	Nurses, student, . . .	—	5
Gardener, . . .	1	—	Nurses, trained, . . .	—	2
Grocer, . . .	1	—	Packer, . . .	—	1
Hatter, . . .	1	—	Painters, . . .	6	—
Hostler, . . .	1	—	Pedlers, . . .	3	—
Housewives, . . .	—	151	Pharmacists, . . .	3	—
Housework, . . .	—	29	Physician, . . .	1	—
Insurance, . . .	4	—	Plumber, . . .	1	—
Ironworkers, . . .	2	—	Porters, . . .	2	—
Jewelers, . . .	5	—	Printers, . . .	7	1
Laborers, . . .	18	1	Real estate agent, . .	1	—
Ladies' maid, . . .	—	1	Sailor, . . .	1	—
Laundresses, . . .	—	4	Salespeople, . . .	22	13
Letter carriers, . . .	5	—	Sausage maker, . . .	1	—
Librarian, . . .	—	1	Shippers, . . .	2	—
Machinists, . . .	16	—	Shoe cutters, . . .	10	—
Messengers, . . .	5	1	Shoemakers, . . .	7	—
Milliners, . . .	—	4	Station agent, . . .	1	—

TABLE VIII. — *Occupations* — Concluded.

	Men.	Women.		Men.	Women.
Steam fitter, . . .	1	—	Telephone operators, . . .	—	3
Stenographers, . . .	5	11	Telegraph operator, . . .	—	1
Steward, . . .	1	—	Ticket taker, . . .	1	—
Stone cutter, . . .	1	—	Usher, . . .	1	—
Students, . . .	23	25	Waiters, . . .	5	3
Tailors, . . .	14	2	Watch makers, . . .	2	—
Teachers, . . .	2	4	Watchmen, . . .	2	—
Teamsters, . . .	20	—	Totals, . . .	420	390

TABLE IX. — *Classification of Results (National Association Classification).*

	INCIDENT.				MODERATELY ADVANCED.				FAR ADVANCED.				TOTALS.			
	Men.	Women.	Totals.	Per Cent.	Men.	Women.	Totals.	Per Cent.	Men.	Women.	Totals.	Per Cent.	Men.	Women.	Totals.	Per Cent.
Apparently cured, . . .	37	39	76	33.04	15	10	25	8.01	—	—	—	—	52	49	101	16.31
Arrested, . . .	49	58	107	46.52	69	48	117	37.50	7	5	12	15.58	125	141	236	38.12
Improved, . . .	16	24	40	17.39	74	63	137	43.91	18	19	37	48.05	108	106	214	34.57
Not improved, . . .	6	1	7	3.04	15	18	33	10.57	16	12	28	36.36	37	31	68	10.98
Totals, . . .	108	122	230	—	173	139	312	—	41	36	77	—	322	297	619	—

TABLE X. — *Comparison of Percentages since the Adoption of National Association Classification.*

INCIPIENT CASES.	1905.	1906.	1907.	1908.
Apparently cured,	39.2	50.4	56.1	33.0
Arrested,	46.7	40.1	26.8	46.5
Improved,	12.0	8.9	16.3	17.3
Not improved,	2.0	.6	.7	3.0

TABLE XI. — *Number of Patients having Hæmoptysis.*

	Men.	Women.	Totals.
Hæmoptysis prior to admission,	172	102	274
Hæmoptysis in sanatorium,	41	32	73
Totals,	213	134	347

Per cent. of cases with record of hæmoptysis: before entrance, 44; in sanatorium, 12.

TABLE XII. — *Deaths, Duration of Disease, Length of Stay in Sanatorium and Cause of Death.*

No.	Duration.	Stay.	Cause of Death.
5353, .	Unknown, .	8 months, 20 days, .	Pulmonary tuberculosis.
5743, .	3½ months, .	27 days,	Pulmonary tuberculosis.
5747, .	Unknown, .	1 month, 4 days, .	Pulmonary tuberculosis, hæmoptysis.
5761, .	Unknown, .	2 months, 18 days, .	Pulmonary tuberculosis, hæmoptysis.
5867, .	Unknown, .	6 months, 27 days, .	Pulmonary tuberculosis.
6115, .	Unknown, .	1 month, 11 days, .	Tubercular meningitis.
6330, .	Unknown, .	2 months, 28 days, .	Pulmonary tuberculosis.
6460, .	Unknown, .	6 days,	tubercular pneumonia, Hæmoptysis, pulmonary tuberculosis.

TABLE XIII. — *Admissions and Discharges from the Beginning of the Sanatorium.*

	Number.	Per Cent.
Admitted, ¹	6,573	—
Discharged,	6,226	—
Not considered,	1,273	—
Considered,	4,953	—
Arrested and apparently cured,	2,208	44.57
Improved,	2,276	45.95
Not improved,	469	9.46
Died,	48	—

¹ Including 8 patients discharged for surgical treatment elsewhere and readmitted under original number.

TABLE XIV. — *Present Condition of Discharged Patients.*

	DATE OF DISCHARGE.										Totals.	Per Cent.
	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.			
Able to work,	37	66	81	95	152	171	205	400	370	1,577	-	
Per cent.,	19.1	21.9	23.2	23.9	31.3	26.9	36.2	47.5	52.4	-	36.5	
Not able to work,	4	3	5	8	13	18	14	30	62	157	-	
Per cent.,	2.0	1.9	1.4	2.4	2.6	3.1	2.4	3.5	8.7	-	3.6	
Not traced,	50	82	114	102.	166	223	201	272	211	1,421	-	
Per cent.,	25.9	30.0	32.7	31.4	34.2	38.7	35.5	32.3	29.8	-	32.9	
Dead,	102	122	148	119	153	164	146	139	63	1,156	-	
Per cent.,	52.8	44.6	42.5	36.7	31.6	28.4	25.7	16.5	8.9	-	26.7	
Totals,	193	273	348	324	484	576	566	841	706	4,311	-	

TABLE XV. — Showing Present Condition of Patients discharged Each Year as "Arrested" and "Apparently Cured" Cases.

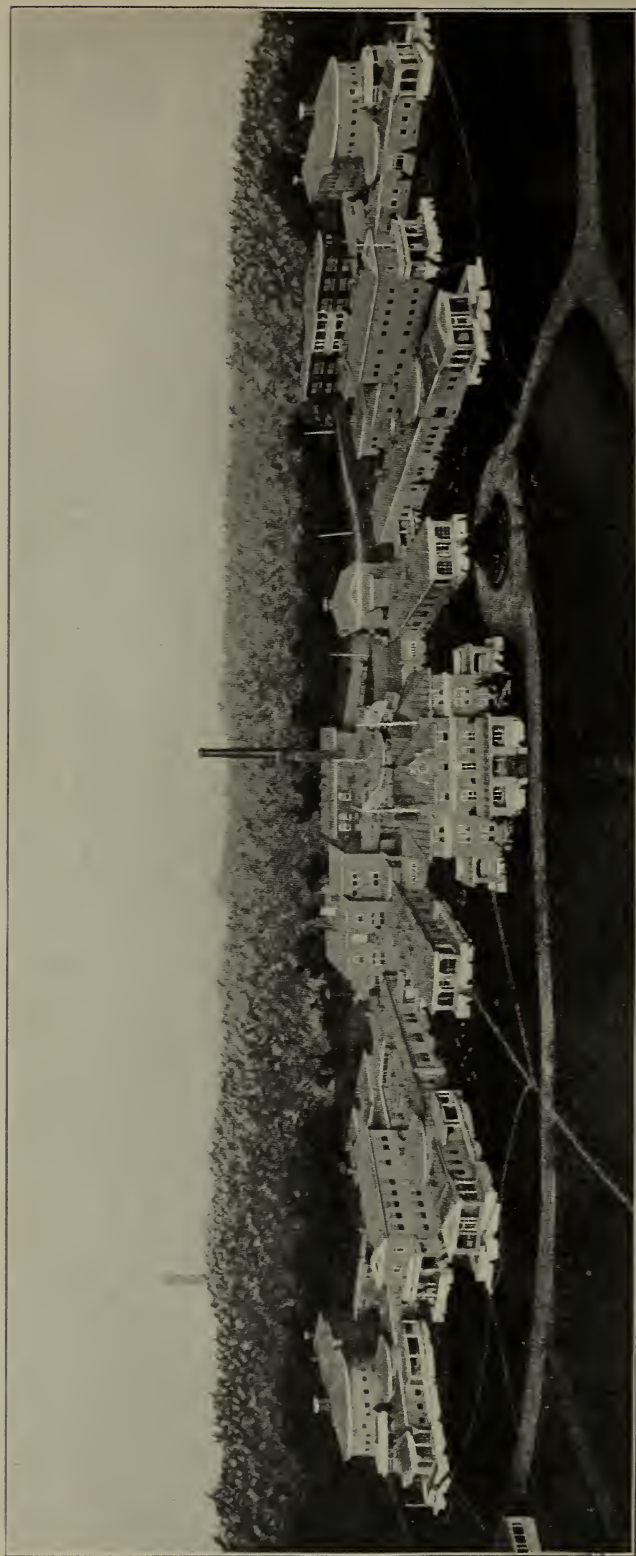
YEAR OF DISCHARGE.	ABLE TO WORK.			NOT ABLE TO WORK.			NOT TRACED.			DEAD.			TOTALS.		Totals.
	Men.	Women.	Totals.	Men.	Women.	Totals.	Men.	Women.	Totals.	Men.	Women.	Totals.	Men.	Women.	
1899, . . .	13	14	27	1	—	1	12	11	23	5	8	13	31	33	64
1900, . . .	19	31	50	—	—	—	23	27	50	8	7	15	50	65	115
1901, . . .	34	33	67	—	—	—	18	46	64	17	11	28	69	90	159
Totals, . . .	—	—	144	—	—	1	—	—	137	—	—	56	—	—	338
Per cent., . . .	—	—	42.6	—	—	—	—	—	40.5	—	—	16.5	—	—	—
1902, . . .	27	47	74	1	3	4	20	34	54	12	12	24	60	96	156
1903, . . .	49	63	112	—	2	2	35	58	93	14	16	30	98	139	237
1904, . . .	56	60	116	5	9	14	40	72	112	7	9	16	108	150	258
Totals, . . .	—	—	302	—	—	20	—	—	259	—	—	70	—	—	651
Per cent., . . .	—	—	46.3	—	—	3.0	—	—	39.7	—	—	10.7	—	—	—
1905, . . .	56	40	96	3	3	6	24	55	79	6	4	10	89	102	191
1906, . . .	94	98	192	—	3	3	44	75	119	11	4	15	149	180	329
1907, . . .	107	100	207	12	6	18	71	57	128	6	3	9	196	166	362
Totals, . . .	—	—	495	—	—	27	—	—	326	—	—	34	—	—	882
Per cent., . . .	—	—	56.2	—	—	3.0	—	—	36.9	—	—	3.8	—	—	—
Grand totals, . . .	455	486	941	22	26	48	287	435	722	86	74	160	850	1,021	1,871
Per cent., . . .	—	—	50.2	—	—	2.5	—	—	38.5	—	—	8.5	—	—	—

Climatological Data, Massachusetts State Sanatorium, Rutland, Altitude, 1,160 Feet, for the Official Year beginning Dec. 1, 1907, and ending Nov. 30, 1908.

DATE.	Mean Temperature.	Clear Days.	Partly Cloudy Days.	Cloudy Days.	Days with Rain or Snow.	Precipitation ¹ (Rain in Inches and Hundredths).	Precipitation ² (Snow in Inches and Hundredths).	Total Wind Movement (Miles).	Wind Average per Hour (Miles).	Mean Relative Humidity (Per Cent.).
1907.										
December, . . .	30.1	19	4	8	8	3.09	12.02	6,100	8.2	61.2
1908.										
January, . . .	23.4	19	9	3	7	3.60	5.05	9,350	12.6	72.4
February, . . .	18.4	19	4	6	10	3.60	24.90	7,970	11.4	74.6
March, . . .	31.1	20	4	7	7	1.99	5.60	7,968	10.7	76.4
April, . . .	41.2	14	12	4	7	2.47	.60	8,930	12.4	62.8
May, . . .	54.8	12	11	8	10	6.20	Trace	9,490	12.8	68.1
June, . . .	65.9	25	3	2	4	1.48	—	6,370	8.8	59.4
July, . . .	70.2	20	9	2	10	3.94	—	6,460	8.7	68.9
August, . . .	65.0	23	2	6	8	6.66	—	6,449	8.7	70.6
September, . . .	62.4	18	6	6	3	1.22	—	6,135	8.4	70.7
October, . . .	53.2	18	3	10	10	2.54	—	6,762	8.2	67.6
November, . . .	37.3	15	5	10	10	1.14	4.00	8,687	12.1	72.3
Totals, . . .	553.0	222	72	72	94	37.93	52.17	90,671	123.0	825.0
Averages, . . .	46.1	18.5	6.0	6.0	7.8	3.16	8.69	7,556	10.2	68.8

¹ Includes rain, melted snow and hail.

² Average taken from months with snow only.



MODEL OF MASSACHUSETTS STATE SANATORIUM

THIRTEENTH ANNUAL REPORT
OF
THE TRUSTEES
OF THE
MASSACHUSETTS
STATE SANATORIUM
AT RUTLAND.

NOVEMBER 30, 1903.



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TO

THE STATE LIBRARY OF MASSACHUSETTS

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MASSACHUSETTS STATE SANATORIUM.

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CONSULTING LARYNGOLOGIST.

A. C. GETCHELL, M.D.,	WORCESTER.
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ESTHER E. JOHANSSON,	<i>Bookkeeper.</i>
WALTER C. BROWN,	<i>Chief Engineer.</i>
FREDERICK H. DRURY,	<i>Farmer.</i>

The Commonwealth of Massachusetts.

TRUSTEES' REPORT.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

The trustees of the Massachusetts State Sanatorium present their thirteenth annual report. This is the last report which the trustees will present. Within a few months the three new sanatoria, provided by chapter 474 of the Acts of 1907, will be ready to receive patients, and upon their completion the management of the Rutland sanatorium is to be transferred to the Board created by this act, and the trustees of the institution at Rutland have no further duties to perform.

The act providing for the construction of the Rutland sanatorium did not prescribe any policy to be followed in the admission of patients, but left this matter entirely to the judgment of the trustees. As the institution could not accommodate all tuberculous cases in the State the trustees adopted the policy of first admitting cases in the incipient stages of the disease, and of taking the more advanced cases only when there were not sufficient incipient cases applying to fill the sanatorium. This policy was based upon the idea that as it was necessary to adopt some principle of selection it would be better in the end to take the curable cases first. As there have always been more applicants for admission than there were beds in the sanatorium it became inevitable that some applicants must be rejected, no matter what policy in regard to admissions was adopted, and there has been some complaint from physicians and others whose patients and friends have not been admitted because of the advanced stage of their disease. The policy adopted at the opening of the institution has now been in force for the greater part of eleven years, and the trustees are of the opinion

that on the whole it has resulted in the greatest good to the greatest number.

The only change in this policy has been that created by chapter 222 of the Acts of 1907, requiring preference to be given to citizens of Massachusetts. This act has produced results which can hardly have been foreseen. We have been obliged to refuse admission to many persons who have been residents of Massachusetts for a number of years but who do not happen to be citizens. During the last year 197 persons, otherwise qualified for admission, have been postponed until there were no citizen applicants, and of all this number only 8 were ultimately admitted. Especial hardship has been caused in cases of unmarried women who, though residents of the State for many years and citizens for all practical purposes, have never been naturalized. We recommend the repeal of the act, or, if preferences are considered desirable, its amendment so as to limit the preference to those who have been residents of Massachusetts for two years.

During the year Mr. W. E. Parkhurst and Mrs. B. B. Russell resigned from the Board. Mr. Parkhurst had served since 1897 and Mrs. Russell since 1905. They have rendered very valuable service, and the other members of the Board regret their resignation exceedingly. As the Board goes out of existence so shortly no appointments have been made to fill these vacancies.

Dr. P. Challis Bartlett resigned in February as assistant physician to become superintendent of the New Hampshire State Sanatorium, and Dr. John E. Runnells has resigned to accept the position of first assistant at the new Lakeville State Sanatorium. We regret to lose two valuable members of our staff. Dr. James A. Lyon, from the Loomis Sanatorium at Liberty, N. Y., has been appointed an assistant physician, and Dr. Herbert Gammons, a graduate of the Boston University School of Medicine, has been appointed to assist Dr. Lapham as interne. Miss Ethel Heald has resigned as dietitian, and her place has not been filled, as the superintendent desires to see if the present staff cannot, through a rearrangement of duties, do the work formerly performed by the dietitian.

The new cow barn, for which an appropriation was made

in 1908, has been completed, and cows have been purchased under the Resolves of 1909.

The contract for the nurses' home, authorized by the Resolves of 1909, has been let to James Miles & Son of Worcester for \$11,802, exclusive of heating, electric wiring and sewer connection, and it is expected that it will be completed and opened in February. The filter beds have been increased one-third in capacity, and upon relaying a part of the pipe, as recommended by the State Board of Health, and for which a special appropriation is asked, will be of sufficient capacity to properly care for the sewage.

A training school for nurses has been established in order that the present "attendants" may become nurses. A schedule of study has been arranged, which is given at length in the report of the superintendent.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows: —

For maintenance,	\$184,000 00
For special appropriations: —	
New horse barn (cement),	\$8,500 00
New dynamo engine and foundations,	4,840 00
Iron sewer pipe,	1,975 00
Repairing road (within grounds),	1,000 00
Additional fire protection,	400 00
	<hr/>
	\$16,715 00

The estimated expense for maintenance is \$3,000 less than the appropriation for last year and \$1,000 less than the appropriation for 1908. The reduction is due principally to the fact that no extraordinary repairs are necessary. The regular maintenance appropriation last year included certain extraordinary repairs which had previously been provided for through special appropriations, and if these are included in the cost of maintenance the per capita cost during the past year has been \$10.42 per week; if these amounts are excluded, and the per capita cost computed on the basis used during the last eleven years, the per capita cost has been \$10.20 per week. These costs compare favorably with the cost of maintenance at other similar institutions.

The special appropriations asked for are all matters of necessity. The present barn is an old wooden building, in great need of extensive repairs which cannot be economically made. A new horse barn will complete the entire new group of farm buildings, and the old barn can then be taken down, as recommended several years ago by Olmsted Brothers in their report laying out a plan for future improvements.

The sanatorium has its own electrical plant, and there has been no increase in the equipment for a considerable time, during which the institution has been largely increased in size. The present equipment is constantly overloaded, and we have no reserve unit, so that a new dynamo and engine are matters of absolute necessity.

For some years we have had much trouble with the overflowing of the filter beds, which were designed for an institution half the size of the present one. We requested the State Board of Health to recommend the necessary changes, and after investigation they reported that a large part of the trouble was caused by leakage from our sewer pipe, which is more than a mile in length, and recommended that a part of this be relaid with iron pipe. A copy of their opinion appears in the report of the superintendent.

Additional fire protection is needed for the new nurses' home and farm buildings.

The road within the grounds of the institution has been badly washed out during the last few years, and if not repaired will become dangerous.

In making their last report the Board desire to put on record their appreciation of the faithful, loyal and efficient work performed by the superintendent, the staff and all the employees of the sanatorium, which they believe is now in a high state of efficiency.

SYLVIA B. KNOWLTON.

JEREMIAH SMITH, JR.

ASHUR HYNEMAN.

JOHN PRENTICE RAND.

ALBERT C. GETCHELL.

SUPERINTENDENT'S REPORT.

To the Trustees of the Massachusetts State Sanatorium.

LADIES AND GENTLEMEN: — I have the honor to submit the following report for the year ending Nov. 30, 1909.

There were present in the sanatorium at the beginning of the year, Dec. 1, 1908, 347 patients, of whom 189 were men and 158 were women. During the year 411 men and 372 women, a total of 783 patients, were admitted. The discharges numbered 784, of whom 416 were men and 368 were women. Included in the latter item are 11 deaths (9 men and 2 women). On the 30th of November, 1909, there were remaining in the sanatorium 346 patients, 184 men and 162 women. The daily average number of patients was 341, which is 2 more than last year, and which also is the highest number during the eleven years since the opening of the sanatorium.

APPLICATIONS FOR ADMISSION.

There were 2,015 new applicants examined for admission. Of this number, 584 were accepted, 591 not accepted and 840 deferred. There were 505 re-examinations of applicants who had formerly been deferred or "not accepted" upon the first examination. Of these, 140 were accepted upon second or subsequent examination, 157 not accepted and 208 again deferred. The total number of examinations was 2,520. Of this number, 1,678, or 66.5 per cent., were examined at the Boston office. The number of examinations made at Worcester, Fall River and Pittsfield has increased considerably over that of previous years. At the Worcester City Hospital 184 examinations were made, at Fall River 132 and at Pittsfield 59. The number of applicants examined at the Lowell office was 89, at Springfield 71, at Northampton 42, at Greenfield 15 and at the Worcester Hahnemann Hospital 3.

RESIDENCE.

The counties of Suffolk and Middlesex furnished 47.6 per cent. of the total number admitted during the year. The number of admissions from Suffolk County was 251, or 32 per cent. This is a slight decrease over previous years, due to a diminished number of applicants from Boston since the opening of the Boston Consumptives Hospital. At the present time the Boston cases average about 30 per cent. of the admissions, a decrease of about 7 per cent. from the usual yearly average.

The admissions from the other counties of the State were divided as follows: from Middlesex, 15.7 per cent.; Essex, 10.9 per cent.; Worcester, 15.7 per cent.; Bristol, 7.9 per cent.; Plymouth, 4.7 per cent.; Norfolk, 2.4 per cent.; Berkshire, 3.5 per cent., and Hampden, 3.5 per cent.

NATIVITY.

An examination into the nativity of those admitted shows that 555, or nearly 71 per cent., were born in the United States. Of the foreign born, 26.7 per cent. were born in the Canadian Provinces, 24 per cent. in Ireland, 20.6 per cent. in Russia, 7 per cent. in England and 7.4 per cent. in Sweden.

Of those born in America of foreign parentage the paternal ancestry was Irish in 48 per cent., Canadian in 22 per cent., English in 10.7 per cent. and German in 7 per cent.

During the year 443 applicants — 248 men and 195 women — were not naturalized citizens, and of this number, 197 were cases suitable for admission but deferred, in accordance with the provisions of chapter 222 of the Acts of 1907, until there should not be a sufficient number of citizens applying to fill the beds. We were able to admit but 8 of this number. Many of these applicants had been residents of Massachusetts for several years. This law seems to be a particular hardship in the case of young women who develop tuberculosis after a few years' residence in the State, to which they have come with the intention of remaining permanently, but who seldom if ever take out naturalization papers.

I believe that the repeal of this act, or its amendment so

as to limit the preference to those who have been residents of Massachusetts for two years, would work to the better advantage of all, and would enable us to accept practically all suitable applicants.

AGE.

The average age of all patients admitted during the year was twenty-six years and nine months. The age was under twenty in 18.5 per cent. and between twenty and thirty years in 42.5 per cent. The age was under thirty years in 59 per cent. of the men admitted, and in 62 per cent. of the women. The number of children between the ages of fourteen and sixteen years, inclusive, was rather larger than usual, there being 26 girls and 15 boys between these ages admitted. A number of younger children were not accepted.

There is considerable need of a sanatorium school for children under the age of seventeen, so situated that the children would not be obliged to associate with adults, who might have an injurious influence upon them, and where school advantages could be combined with sanatorium care. Such a school could well be conducted in connection with and under the same administration as the Hospital Cottages for children at Baldwinsville, the situation and equipment of which are suitable for such an undertaking.

CIVIL CONDITION.

Over 55 per cent. of the admissions were of married people. The percentage of the married was higher among the men admitted than among the women, being 60 for the former and 51 for the latter.

OCCUPATION.

The occupation of the patients was an indoor one in 88 per cent. of the cases admitted. Of the women, 41.6 per cent. were housewives, 12 per cent. were in domestic service and 16 per cent. were mill or factory operatives. Of the men, 77 per cent. worked indoors, and of the indoor workers 29 per cent. were mill or factory operatives.

RESULTS OF TREATMENT.

The number of patients admitted this year was 27 less than last year, but the number of considered cases, that is, those remaining more than one month, was greater, so that the number of cases treated and upon which we can have statistics was 33 more than last year, or 652.

The average duration of sanatorium residence in these cases was six months and ten days, which is 12 days less than last year.

This year 203, or 31.13 per cent., of the cases were classified as incipient, 341, or 52.3 per cent., as moderately advanced, and 108, or 16.56 per cent., as far advanced. This shows a decrease of about 5 per cent. in the number of incipient cases under treatment.

All incipient cases applying, with the exception of the non-citizen applicants, are accepted at once, but there never are more than enough to fill one-third of the beds.

With all the active interest being taken in the stamping out of tuberculosis within recent years, both by the medical profession and the general public, it is surprising that there is not a more general recognition of the disease in its early stages and an increasing demand for admission of incipient cases. The reason for the falling off in the number of patients applying in the incipient stage is undoubtedly that these patients are being cared for at home, in the tuberculosis classes and clinics now conducted in many of the cities and larger towns of the State. Many patients remain at home for several weeks or months after the recognition of the disease, often without special supervision or treatment and continuing at work, until when they do apply for admission they are in the moderately advanced stage.

While the tuberculosis classes and other forms of home treatment do a great deal of good, have a very important field of usefulness and are very necessary agents in the anti-tuberculosis campaign, I still believe that the patients with incipient disease will, in the majority of cases, do better and receive more lasting benefit under sanatorium than under home, day camp or class care. The early case is the curable case, and should be

placed as soon as recognized under conditions most likely to effect an early and lasting cure or arrest of the disease. A change of environment and a systematic regulation of the daily life in all its details are of prime importance in these cases, and these conditions can be had more surely in the sanatorium than at home.

Of the incipient cases under treatment during the year, 61.57 per cent. were discharged as apparently cured, 25.61 per cent. as arrested, 10.83 per cent. as improved and 1.97 per cent. as not improved.

The average duration of residence of the incipient cases discharged as apparently cured or arrested was five months and one day.

There were 341 classified as moderately advanced, of whom 12.61 per cent. were apparently cured, 43.11 per cent. arrested, 32.84 per cent. improved and 11.43 per cent. not improved.

The far-advanced cases numbered 108, an increase of 31 over last year. None of these were discharged as apparently cured, but there was an arrest of the disease in 14.80 per cent. and improvement in 40.74 per cent., while 44.44 per cent. were not improved.

Taking all classes of cases together, 25.77 per cent. were apparently cured, 32.97 per cent. were arrested, 27.30 per cent. were improved and 13.95 per cent. not improved.

There were 11 deaths during the year. The causes of death and duration of residence are given in Table XII.

WEIGHT.

The weight records of 652 considered cases were as follows: the number who gained in weight was 595, — men, 313; women, 282. The average gain of the men was 15.1 pounds; average gain of the women, 14 pounds. The greatest gain of a man was 55 pounds and of a woman 35 pounds. There were 57 who lost weight, — 25 men losing an average of 7.2 pounds and 32 women losing an average of 3.1 pounds. The average gain in weight is the highest since 1902.

TUBERCLE BACILLI IN SPUTUM.

There had been no examination of sputum for tubercle bacilli before entrance in 52.6 per cent. of the patients admitted, and of those examined, 88, or 36.6 per cent., were negative, and 240, or 63.4 per cent., were positive. Tubercle bacilli were found in the sputum of 389, or 59.6 per cent., of all considered cases during their sanatorium residence. In 229 cases (35 per cent.) tubercle bacilli were not demonstrated after repeated examinations. Six men and 28 women had no sputum.

Tuberculin was used for diagnostic purposes in 24 cases, the cutaneous test in 17 and the subcutaneous in 7. The cutaneous reaction was positive with two exceptions, as was also the subcutaneous.

The therapeutic use of tuberculin was resorted to in 23 cases. Three of these were cases complicated with a tubercular inflammation of the iris and sclera, which improved under treatment. The remainder were cases which had been for some time under treatment and whose condition was stationary or retrogressive. One of these was discharged as apparently cured, 8 as arrested, 1 as improved, 6 as not improved and 4 are still under treatment. Bacillin emulsion or bouillon filtrate were the preparations used.

COMPLICATIONS.

A fairly complete record of complications has been made during the year and the most frequent of these are here given.

Hæmoptysis of some degree was noted in 109, or 16 per cent., of the cases. Hæmoptysis prior to entrance occurred in 274, or 42 per cent., of the considered cases.

Adenoids,	2	Diabetes,	1
Adenitis,	3	Enteritis, tubercular,	8
Adenitis, tubercular,	2	Furunculosis,	1
Appendicitis,	9	Eneurisis,	1
Anæmia, secondary,	2	Epilepsy,	1
Asthma,	3	Fistula in ano,	2
Abscess, ischio rectal,	3	Heart, mitral regurgitation,	4
Abscess, inguinal,	1	Iritis, traumatic,	1
Abscess, pulmonary,	1	Iritis, tubercular,	3

Insanity,	1	Pregnancy,	6
Keratitis, phlyctenular,	1	Pleurisy, fibrinous,	3
Keratitis, tubercular,	1	Pleurisy with effusion,	1
Laryngitis, catarrhal,	6	Otitis media,	3
Laryngitis, tubercular,	17	Rheumatism,	2
Laryngitis, syphilitic,	1	Tonsilitis,	4
Lupus, ankle,	1	Syphilis,	2
Miliary tuberculosis,	1	Tumor of brain,	1
Meningitis, tubercular,	1	Trichophytosis,	1
Neurasthenia,	4	Tachycardia,	2
Pneumonia, lobar,	2	Tachycardia, paroxysmal,	2
Pneumonia, tubercular,	1	Ulcer, stomach,	1
Pneumothorax,	5		

LABORATORY.

A large amount of work has been accomplished in the laboratory during the year. The routine sputum and urine analyses take a great deal of time, curtailing the amount of special work, for which there is a large demand upon the laboratory director. In spite of this, however, the laboratory is daily proving to be more and more indispensable to the medical service. The preparation of vaccines, with the accompanying cultural studies, has become an important part of the routine bacteriological work. Autogenous vaccines have been prepared in numerous cases, and during the past months considerable work has been done with the bacillus lacticus, which organism is supplied to the throat room in bouillon culture for nasal treatment and used for inoculation purposes in making buttermilk. A series of analyses of stomach contents, both chemical and microscopical, is being made, and it is hoped soon to have this sufficiently complete to form the basis for a report.

The work planned for last year upon the fat metabolism was begun in the spring, but was temporarily abandoned owing to the prolonged leave of absence granted to the director during the summer.

The following is a summary of the laboratory work of the past year: —

Sputum Examinations.

Positive,	1,776, or 33.95 per cent.
Negative,	3,454, or 68.04 per cent.
Total,	5,230

Classified: —

Few,	999, or 56.25 per cent.
Moderate,	488, or 27.48 per cent.
Many,	245, or 13.79 per cent.
Very many,	44, or 2.47 per cent.

Positive on first examination,	1,452, or 81.75 per cent.
Positive on second examination,	238, or 13.40 per cent.
Positive on third examination,	86, or 4.84 per cent.

Autogenous and stock vaccines have been prepared of the following organisms: staphylococcus pyrogenous albus, aureus, albus et aureus; streptococcus pyrogenous; pneumococcus and bacillus coli communis. Culture studies have been made of practically all discharging abscesses, sinuses, etc., and of all other cases where vaccines were applicable or information as to the character of the organisms desired. Preparation of Bulgarian buttermilk has been carried out, and bouillon culture of bacillus lacticus furnished for treatment in nasal cases. The opsonic index has been determined in a few cases in connection with the preparation of vaccines. Examinations of blood according to the Rosenberger method were made in 7 cases. The findings were negative in 4 cases and in 3 acid-alcohol-resisting bacilli were found morphologically consistent with the tubercle bacillus, but in all 3 cases guinea-pig inoculations were negative. Further work along this line was not done, owing to the uniformly negative findings of other laboratory workers.

Tubercle bacilli were found in large numbers in the urinary sediment in two cases, in the spinal fluid in 1 case and in the feces in 5 cases.

The work in the chemical laboratory included the gravimetric analysis of urine for total solids, albumen, chlorides, and in a few cases for heavy metals; of milk and cream for total solids, and of feces for fat; the volumetric analysis of urine for nitrogen and for dextrose; the indican determination in over 700 cases; weekly milk and cream analyses by means of Feser's lactoscopic and specific gravity method, and monthly milk analysis from each source of the sanatorium supply. Chemical analyses of the gastric contents following removal

after a test meal were made in 32 cases, with the following findings: decreased acidity in 24, or 75 per cent.; minus acidity, 1, or 3.12 per cent.; increased acidity in 4, or 12.5 per cent.; normal in 3, or 9.3 per cent. Tubercle bacilli were demonstrated in 17, or 53.13 per cent. Guinea-pig inoculations to determine the pathogenic activity of the tubercle bacilli have already been carried out in 3 of these cases, and a further series of both animal inoculation, chemical and microscopical examinations is under way.

MEDICAL VISITORS.

The invitation extended last year to medical visitors has been accepted by several, and it is hoped that more of the physicians of the State will visit the sanatorium during the coming year, to remain a day or longer, as their time may permit, to become familiar with the work of the sanatorium and to avail themselves of its clinical advantages. Several medical organizations have held meetings with us during the last year, and we trust we may have them and others with us in the future.

IMPROVEMENTS.

During the summer we completed the removal of the stucco and wire lath on the outside walls of the original group of buildings. The old material has now been everywhere replaced, except on the west side of ward A, where it has remained intact and as yet shows no signs of decay.

The main corridor floors have been relaid with maple flooring. Considerable work has been done in grading about the women's wards.

The operating room in the infirmary was finished early in the year and has many times proved its value.

The new cow barn was completed and has been in use since July 1.

The hennery has been enlarged and stocked to its present capacity of 1,200 fowls.

Good progress has been made in the construction of the nurses' home, for which an appropriation was granted at the last session of the Legislature, and the building will be ready

for occupancy early in the year. On account of the sewer connection it was found necessary to raise this building eighteen inches above the grade originally planned, thus necessitating a corresponding elevation of the roadway passing in front of the building, across which it was necessary to carry the sewer line. This will necessitate a much larger amount of filling and grading than was expected.

Work is now progressing on the construction of sleeping porches along the corridors between wards M and A and wards D and L. The old verandas on the original buildings are being rebuilt, having become unsafe from decay.

IMPROVEMENTS DESIRED.

The electric lighting plant is inadequate for the work which it is now called upon to perform, and with the completion of the nurses' home there will be an increased demand upon it. We are using one 75-kilowatt generator and two 25-kilowatt generators, which were installed at the time the institution was opened. We cannot run the large generator with either one or both of the small ones, and are dependent upon the large generator alone, which is already overtaxed, for carrying the main load. In case of accident we have no reserve sufficient to light the buildings properly. We should have another unit, consisting of a 150-kilowatt dynamo and engine, for the purchase and installation of which \$5,000 is required.

At your request I communicated with the State Board of Health last spring, asking for advice relative to maintenance of the sewage-disposal system at the sanatorium, and received the following reply under date of May 6, 1909:—

To the Board of Trustees of the State Sanatorium, Rutland, Mass.

GENTLEMEN:—In response to your request for a further examination of the sewage-disposal system at the sanatorium at Rutland, and advice as to the construction of an additional area of filters, amounting to about .36 of an acre, which, with the filters already constructed, would make the total filtration area about 1.4 acres, the Board has caused a further examination of the locality to be made by one of its engineers and has caused observations to be made of the flow of sewage at various points between the institution and the present filtration area.

These observations were made on March 23 and April 16, the former in a comparatively dry period, at a time when the ground was frozen and no rain had fallen for several days, and the latter on the day following a very heavy rain.

The sewage from the buildings is collected into a flush tank, which discharges automatically several times during the day, and on each of the days when observations of the flow were made the quantity of sewage entering the sewer from the institution was found to be between 60,000 and 65,000 gallons per day. The quantity of sewage discharged at the filtration area, on the other hand, when no sewage was being discharged from the flush tank, was found to be, on March 23, 12,000 gallons per day, and that quantity evidently represents the amount of ground water entering the main sewer at that time between the flush tank and the filtration area. At the time of the observations made in April, the quantity of water flowing in the sewer at the manhole 1,900 feet above the upper end of the inverted siphon, when no sewage was passing the flush tank, was between 8,000 and 9,000 gallons per twenty-four hours, and this quantity probably represents the leakage into the portion of the sewer between the flush tank and this manhole at the time when the leakage is greatest. At the next manhole further down the sewer, and about 1,300 feet above the head of the siphon, the flow had increased to 56,300 gallons per twenty-four hours when no sewage was passing the flush tank, and at the filtration area the flow at that time was at a rate of a little over 100,000 gallons per twenty-four hours.

The sewer throughout most of the 1,900 feet next above the inverted siphon is laid through wet and marshy land, and the great quantity of ground water leaking into the sewer evidently enters it through the joints of the pipes and the interstices of the brickwork, of which the manholes are constructed.

The filter beds now in use have an area of approximately 1 acre, and with the additional filter beds which it is now proposed to construct the total area would be about 1.4 acres. In the opinion of the Board, this area would be entirely inadequate to purify properly all of the sewage of the institution, increased, as it now is, by the great quantity of leakage which finds its way into the main sewer at times of wet weather.

The only practicable plan of preventing this excessive leakage is to reconstruct the main sewer throughout the 1,900 feet above the upper end of the inverted siphon, using iron pipe with lead joints in place of the ordinary sewer pipe now in use, and to reconstruct the manholes on this portion of the sewer and make them water-tight. When the leakage has been eliminated, the quantity of sewage to be disposed of, including leakage, will apparently be about 70,000 gallons per day. This quantity is somewhat larger than was indicated in the

investigations of last year, and in order to purify it properly at all times, it will be advisable, in the opinion of the Board, to construct the additional filter beds now proposed. With this additional area the filters will be capable of purifying all of the sewage of the institution until the quantity has increased considerably beyond the amount now being discharged therefrom.

The area of land in the neighborhood of your present filter beds, containing soil well suited to the purification of sewage, is very limited, and it is desirable to reduce the quantity of sewage to be disposed of to the smallest practicable amount.

The Board recommends that the construction of the additional filter beds and the reconstruction of the main sewer, including the manholes thereon, for a distance of 1,900 feet above the inverted siphon be carried out as soon as the weather conditions become favorable for this work.

By order of the Board,

MARK W. RICHARDSON, M.D., *Secretary*.

To carry out the recommendation of the Board we have enlarged the filter area by the construction of two new beds, having an area of 16,000 square feet.

We have obtained estimates for the relaying of the pipe line as recommended, and should ask for an appropriation of \$1,975 for this purpose. When the pipe line has been rebuilt, thus eliminating the surface water now reaching the beds, and the old beds resurfaced, the plant should be adequate to meet the demands made upon it.

A fire hydrant should be located between the infirmary and the nurses' home and additional hose and fire extinguishers purchased, for all of which an appropriation of \$400 is needed.

We are much in need of a new horse barn to replace the old barn, from which the cows have been removed, but which it is still necessary to use for horses. Carriage room and sheds for the proper housing of farm wagons and implements are also needed. The old barn is badly out of repair, but contains good timber which can be used to advantage in building another barn for the above uses upon a site near the new cow barn and farmhouse, thus enabling us to remove the present unsightly buildings from the front of the sanatorium. Plans and estimates have been obtained for the construction of a suitable barn for \$7,000 in wood or \$8,500 in cement.

The main road across the sanatorium grounds needs resurfacing throughout and rebuilding in part, at a cost which has been estimated by an engineer from the office of the State Highway Commission at \$1,400.

TRAINING SCHOOL FOR ATTENDANTS.

It is proposed with the beginning of another year to inaugurate a training school for attendants. The sanatorium offers an excellent field for young women, untrained in the care of patients with tuberculosis, to receive instruction calculated to fit them for this service. We have planned a two years' course of instruction, consisting of lectures, recitations, bedside instruction, demonstrations, etc., covering the ground outlined in the following schedule: —

SCHEDULE FOR A TWO YEARS' COURSE.

First Year.

The ethics of nursing.
Anatomy and physiology to nervous system.
Principles of bacteriology.
Hygiene, personal and public.
Housekeeping.
Food, dietetics and cooking.
Bedside instruction.
Nursing, general and special.
Observation and symptoms.
Weights and measures.

Second Year.

Anatomy and physiology, nervous system and special senses.
Administration of medicine.
The more common medical and surgical diseases.
Contagious diseases.
Pulmonary diseases, especially tubercular.
Technic of aseptic surgery.
Nursing, general and special, in cases of tuberculosis.
Lectures of one-half hour duration to be given on the above subjects by members of the staff twice each week, one to each class.
Practical work to be given by superintendent of nurses.
Quiz weekly and examination twice a year.

TEXT-BOOKS.

McIsaac's "Primary Nursing Technique."

Stacy's "Practical Points in Nursing."

Otis's "Great White Plague."

SCHEDULES OF PRACTICAL WORK.

(To be taught, if possible, by demonstration.)

Housekeeping.

Care, airing and cleaning of bedstead, mattress, blankets and bed linen.

Care of cupboards and medicine closets.

Care of serving rooms, refrigerators, water coolers, closets, sinks, garbage pails.

Use and care of disinfectants and other poisonous ward solutions.

Care of rubber goods, — air beds, sheets, hot-water bags, ice caps, enema tubes, catheters, rubber rings, etc.

Care of basins, sputum cups, spittoons, bedpans, urinals, and all other metal and porcelain articles.

Economical use of supplies.

General Nursing.

Reception of patient; undressing patient and bath; care of clothing and valuables.

Making go-back bed. Open bed for patient at night.

Toilet and bath of patient in bed; washing hair, care of mouth, hands and feet.

Changing of bedding and clothing of patient in bed.

Sitting patient up in bed; getting patient out of bed.

Care of the back and other parts exposed to pressure.

Use of bedpan and urinal, back rests, rings, hot-water bags, etc.

Preparation of patient for various physical examinations.

Serving food to patients in bed; feeding helpless patients.

Giving enemata, — purgative, nutrient and stimulating.

Subcutaneous injections of drugs and normal salt solutions.

Use and care of catheter; washing out the bladder.

Giving various douches.

Washing out the stomach.

Making and application of poultices, fomentations, stupes, mustard pastes, etc.

Application of ointments, liniments, etc.

Application of dry cups, blisters and leeches.

Aspirating needles and apparatus.

Administration of oxygen, ether and chloroform.

Giving hot-air bath to patient in bed.

Collection and preparation of specimens of excreta for the laboratory.

Taking and recording pulse, blood pressure, temperature and respiration.

Observation of symptoms with bedside instruction.

Daily record of patient.

Special care of the dying.

Evidences of death.

Surgical Nursing.

Cleaning and disinfection of the operating room.

Making bandages, tampons, sponges, etc.

Sterilization and care of surgical dressings.

Making ether bed.

Preparations for surgical operation (demonstration when actual cases are not available): —

(a) Patient, — bowels, bladder, skin, for anæsthesia, etc.

(b) Operating room.

(c) Instruments and dressings.

(d) Solutions.

(e) Personal preparations, — hands, costume, etc.

(f) Anæsthetist's articles.

(g) Bed and clothing of the patient.

Assisting at surgical operations.

Assisting at surgical dressings.

Surgical emergencies.

Splints and Bandaging.

Review of tables of weights and measures.

Review of abbreviations and signs used in prescriptions.

Practice in the use of weights and measures.

Making percentage solutions.

Dispensing definite doses from solutions of known strength.

The recognition, doses, and effects of some of the drugs in common use.

Different classes of drugs.

Different preparations and methods of administration.

Poisons and their antidotes.

RUTLAND JOURNAL.

In March we began the publication of a monthly paper, the "Rutland Journal," for distribution among the patients in the sanatorium, ex-patients who desire to keep in touch with the work, and the physicians and charity workers throughout

the State. The journal is proving of much interest, not only to those in the sanatorium but to persons interested in tuberculosis work in various parts of the State, and I trust it will prove of increasing value to the institution.

MEDICAL SERVICE.

In February Dr. P. Challis Bartlett resigned to accept the position of superintendent of the New Hampshire State Sanatorium at Glen Cliff, N. H. Dr. Bartlett's long hospital training, skill and tact as a medical officer made us deeply regret his departure. We wish him success in this new field. He was succeeded by Dr. James A. Lyon, formerly on the staff of the Loomis Sanatorium, Liberty, N. Y.

Dr. John E. Runnells, who has been connected with the sanatorium over three years as interne and as assistant physician, has been appointed first assistant physician at the Lakeville State Sanatorium, and severs his connection with us on the opening of that institution. Dr. Runnells has had an experience well qualifying him for this important position, and the new sanatorium will gain a most valuable officer by his promotion.

Dr. Ernest P. Bixby served as interne from January to June, and Dr. Gaius Harmon from June to October, when he was succeeded by Dr. Herbert Gammons.

Miss Ethel Heald, who has rendered most efficient service as dietitian during the year, has presented her resignation, to take effect December 1.

We are again indebted to the many friends who have so generously remembered us with books, magazines, clothing and other articles for the amusement and comfort of the patients.

I wish to express my appreciation also of the efforts made so successfully by many of the patients and ex-patients, some of whom are now employed in the sanatorium, toward the entertainment and for the contentment of their sanatorium associates. Few not intimately connected with the work realize the spirit of helpfulness and encouragement to others which is so universal among the residents here. Through their efforts an excellent organ has been purchased for the Assembly Hall, and

they have contributed much both of their talents as entertainers and of substantial assistance in many ways for the welfare of those in need.

I am indebted to the medical staff, officers and employees for loyal support, and commend them most heartily for their zeal in working for the interests of the institution.

I would acknowledge also my personal obligation to your honorable Board for valuable advice, assistance and encouragement throughout the year.

Respectfully submitted,

FREDERICK L. HILLS,

Superintendent.

TREASURER'S REPORT.

To the Trustees of the Massachusetts State Sanatorium.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1909:—

CASH ACCOUNT.

Balance Dec. 1, 1908,	\$1,417 58
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*Receipts.**Institution Receipts.*

Board of inmates:—

Private,	\$42,747 19
Charitable associations,	2,428 98
Cities and towns,	5,171 29
State aid,	472 43

 \$50,819 89

Salaries, wages and labor:—

Wages not called for,	47 45
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Sales:—

Food,	\$311 82
Clothing and materials,	12 00
Furnishings,	4 57
Miscellaneous,	3,396 33

 3,724 72

Farm, stable and grounds:—

Pigs and hogs,	2,360 08
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Miscellaneous receipts:—

Interest on bank balances,	128 37
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 57,080 51
Receipts from Treasury of Commonwealth.

Maintenance appropriations:—

Balance of 1908,	\$12,744 43
Advance money,	9,500 00
Approved schedules of 1909,	170,635 33

 192,879 76

Special appropriations,

16,164 25

Total,	\$267,542 10
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Payments.

To treasury of Commonwealth, institution receipts,	\$57,080 51
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Maintenance appropriations:—

Balance November schedule, 1908,	14,162 01
Eleven months' schedules, 1908,	170,635 33
November advances,	5,104 56

 246,982 41

Amount carried forward,	\$246,982 41
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<i>Amount brought forward,</i>			\$246,982 41
Special appropriations: —			
Approved schedules,	\$16,164 25		
November advances,	119 15		
			16,283 40
Balance Nov. 30, 1909: —			
In bank,	\$3,116 04		
In office,	1,160 25		
			4,276 29
Total,			\$267,542 10

MAINTENANCE.

Appropriation,	\$187,000 00
Expenses (as analyzed below),	186,709 27
Balance reverting to treasury of Commonwealth,	\$290 73

Analysis of Expenses.

Salaries, wages and labor: —		
General administration,	\$36,076 47	
Medical service,	4,045 78	
Ward service (male),	1,217 45	
Ward service (female),	5,829 47	
Repairs and improvements,	4,034 42	
Farm, stable and grounds,	8,272 94	
		\$59,476 53
Food: —		
Butter,	\$6,494 71	
Butterine,	327 00	
Beans,	64 90	
Bread and crackers,	105 78	
Cereals, rice, meal, etc.,	895 05	
Cheese,	165 10	
Eggs,	8,393 02	
Flour,	2,099 28	
Fish,	2,496 50	
Fruit (dried and fresh),	2,799 68	
Meats,	40,452 41	
Milk,	9,959 01	
Molasses and syrup,	52 24	
Sugar,	1,980 76	
Tea, coffee, broma and cocoa,	1,057 23	
Vegetables,	3,960 83	
Sundries,	374 09	
		81,677 59
Furnishings: —		
Beds, bedding, table linen, etc.,	\$1,605 25	
Brushes, brooms,	311 00	
Carpets, rugs, etc.,	112 35	
Crockery, glassware, cutlery, etc.,	686 35	
Furniture and upholstery,	659 33	
Kitchen furnishings,	318 31	
<i>Amounts carried forward,</i>	\$3,692 59	\$141,154 12

<i>Amounts brought forward,</i>		\$3,692 59	\$141,154 12
Furnishings — <i>Con.</i>			
Wooden ware, buckets, pails, etc.,		139 47	
Sundries,		100 18	
		<hr/>	3,932 24
Heat, light and power: —			
Coal,		\$9,527 26	
Transportation of coal,		1,447 24	
Oil,		213 99	
Sundries,		319 01	
		<hr/>	11,507 50
Repairs and improvements: —			
Cement, lime and plaster,		\$283 20	
Doors, sashes, etc.,		72 87	
Electrical work and supplies,		513 00	
Hardware,		615 04	
Lumber,		1,261 85	
Machinery, etc.,		161 39	
Paints, oil, glass, etc.,		699 20	
Plumbing, steam fitting and supplies,		1,054 22	
Roofing and materials,		106 47	
Sundries,		205 82	
		<hr/>	4,973 06
Farm, stable and grounds: —			
Blacksmith and supplies,		\$183 90	
Carriages, wagons, etc., and repairs,		38 40	
Fertilizers, vines, seeds, etc.,		1,125 57	
Hay, grain, etc.,		4,236 99	
Harnesses and repairs,		25 40	
Horses,		425 00	
Other live stock,		158 00	
Tools, farm machines, etc.,		184 05	
Sundries,		167 85	
		<hr/>	6,545 16
Miscellaneous: —			
Books, periodicals, etc.,		\$97 15	
Chapel services and entertainments,		590 00	
Freight, expressage and transportation,		1,129 95	
Hose, etc.,		16 50	
Ice,		90 21	
Medicines and hospital supplies,		3,696 29	
Medical attendance, nurses, etc. (extra),		56 00	
Examination of applicants,		2,351 60	
Postage,		626 57	
Printing and printing supplies,		843 62	
Cuspidor supplies,		2,026 28	
Soap and laundry supplies,		1,446 98	
Stationery and office supplies,		764 90	
Travel and expenses (officials),		513 40	
Telephone and telegraph,		934 76	
Tobacco,		3 00	
Water,		2,436 39	
Sundries,		973 59	
		<hr/>	18,597 19
Total expenses for maintenance,			\$186,709 27

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1908,		\$6,489 42
Appropriations for fiscal year,		19,400 00
		<hr/>
Total,		\$25,889 42
Expended during the year (see statement annexed),	\$16,164 25	
Reverting to treasury of Commonwealth,	309 31	
		<hr/>
		16,473 56
		<hr/>
Balance Nov. 30, 1909,		\$9,415 86

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$4,276 29	
November cash vouchers (paid from advance money),	5,223 71	
Due from treasury of Commonwealth, account November, 1909, schedule,	6,573 94	
		<hr/>
		\$16,073 94

Liabilities.

Schedule of November bills,	\$16,073 94
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Special Appropriations.

ОБЪЕКТ.	Act or Resolve,	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Hospital for Consumptives loan fund,					\$280 30 ¹
New farmhouse,	Resolves 1906, Chapter 83,	\$3,500 00	\$49 38	\$3,500 00	—
Piggery,	Resolves 1906, Chapter 83,	500 00			31 ¹
Piggery,	Resolves 1907, Chapter 98,	500 00	4 00	999 69	
Grading,	Resolves 1907, Chapter 98,	500 00	71 60	499 36	64 ¹
Pavilion,	Resolves 1907, Chapter 98,	2,000 00	38 62	1,968 73	1 27 ¹
Piazas,	Resolves 1907, Chapter 98,	2,000 00	7 20	1,999 72	28 ¹
New cow barn,	Resolves 1908, Chapter 93,	9,000 00	3,270 09	8,988 62	1 38 ¹
Filter beds,	Resolves 1908, Chapter 93,	1,000 00	864 27	999 56	44 ¹
Hennery,	Resolves 1908, Chapter 93,	900 00	125 47	899 51	49 ¹
Hennery equipment and purchase of hens,	Resolves 1908, Chapter 93,	900 00	376 08	899 29	71 ¹
Metallic dry room,	Resolves 1908, Chapter 93,	700 00	—	680 00	20 00 ¹
Operating room and equipment,	Resolves 1908, Chapter 93,	1,000 00	997 63	997 63	2 37 ¹
Painting wards and outside work and roofs,	Resolves 1908, Chapter 93,	4,500 00	369 75	4,499 28	72 ¹
Repairs on outside walls,	Resolves 1908, Chapter 93,	2,000 00	6 20	1,999 78	22 ¹
Constructing and furnishing nurses' home,	Resolves 1909, Chapter 77,	15,000 00	7,296 93	7,296 93	7,703 07
Additional piazza,	Resolves 1909, Chapter 77,	2,000 00	597 23	597 23	1,402 77
Enlarging hennery,	Resolves 1909, Chapter 77,	1,000 00	999 82	999 82	18 ¹
Purchase of cows,	Resolves 1909, Chapter 77,	1,400 00	1,089 98	1,089 98	310 02
		\$48,400 00	\$16,164 25	\$38,955 13	\$9,415 86

¹ Reverting to treasury.

Respectfully submitted,

FREDERICK L. HILLS,

Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

WARREN A. MERRILL,

Assistant Supervisor of Accounts.

SUMMARY OF CURRENT EXPENSES.

Total expenditures,	\$186,709 27
Deducting extraordinary expense,	3,725 62
	<hr/>
	\$182,983 65
Deducting amount of sale of supplies,	3,724 72
	<hr/>
	\$179,258 93
Adding decrease of supplies:—	
1908 inventory,	\$11,249 62
1909 inventory,	8,994 54
	<hr/>
	2,255 08
	<hr/>
	\$181,514 01

Dividing this amount by the daily average number of patients, 341, gives an average annual cost of \$532.29, equivalent to an average weekly net cost of \$10.20 +

FARM ACCOUNT.

The farm account is as follows: —

DR.

Products of the farm on hand, as estimated Dec. 1, 1908, .	\$3,094 80
Blacksmith,	119 05
Board of men,	1,230 00
Coal,	136 00
Grain and feed for stock,	3,020 80
Harness repairs,	9 37
Labor,	6,635 36
Seed and fertilizer,	102 71
Sundries,	946 60
Tools and hardware,	69 51
Waste from sanatorium kitchen,	200 00
	<hr/> \$15,564 20

CR.

Board of four driving horses, 12 months, at \$20 per month,	\$960 00
Board of one driving horse, 5 months, at \$20 per month, .	100 00
Labor for sanatorium, putting in ice, hauling provisions from station, etc.,	1,459 56
Milk supplied, as per list following, 88,909½ quarts, at \$0.04½,	4,000 94
Fruit and vegetables supplied, as per the following list, .	1,571 88
Beef supplied, as per list following,	63 65
Liver supplied, as per list following,	3 48
Pork supplied, as per list following,	263 90
Fertilizer supplied, as per list following,	27 00
Oats, hay and straw,	5 23
Sold, hogs,	2,360 08
Products of farm on hand, as estimated Dec. 1, 1909, per list following,	2,401 40
Stock on hand Dec. 1, 1909,	367 79
	<hr/> \$13,584 91
Deficit against farm,	1,979 29
	<hr/> \$15,564 20

PRODUCTS OF THE FARM DELIVERED TO THE SANATORIUM DURING THE
YEAR ENDING NOV. 30, 1909.

Apples, 12 barrels, at \$1.25 to \$1.75 per barrel, . . .	\$20 00
Apples, 2½ bushels, at \$1.25 to \$1.75 per bushel, . . .	1 45
Beans, shell 6½ bushels, at \$0.75 to \$1.00 per bushel, . . .	5 50
Beans, wax, 16 bushels at \$1.00 per bushel, . . .	16 00
Beef, 1,018½ pounds, at \$0.05½ to \$0.07 per pound, . . .	63 65
Beets, 184 bushels, at \$0.50 to \$1.25 per bushel, . . .	94 25
Cabbage, 2,589 pounds at \$0.04 per pound, . . .	103 56
Carrots, 18 bunches, at \$0.50 to \$1.00 per dozen bunches, . . .	1 50
Carrots, 202 bushels, at \$0.40 to \$0.60 per bushel, . . .	82 00
Cauliflower, 149 heads, at \$0.05 to \$0.07 per head, . . .	8 29
Celery, 11½ boxes, at \$0.25 to \$1.25 per box, . . .	3 95
Corn, 321 dozen, at \$0.12 per dozen, . . .	38 52
Cucumbers (large), 3,291, at \$3.00 to \$3.50 per hundred, . . .	74 75
Cucumbers (small), 8,476, at \$0.25 per hundred, . . .	21 19
Fertilizer, 9 loads, at \$3.00 per load, . . .	27 00
Hay, 50 pounds, at \$0.75 per hundred, . . .	38
Hogs, at \$0.07¼ to \$0.12 per pound, . . .	2,623 98
Leeks, 1,332 bunches, at \$0.25 to \$0.30 per dozen bunches, . . .	27 95
Lettuce, 288½ boxes, at \$0.20 to \$0.75 per box, . . .	120 70
Liver, 29 pounds, at \$0.12 per pound, . . .	3 48
Milk, 88,909½ quarts, at \$0.04½ per quart, . . .	4,000 94
Oats, 4 bushels, at \$0.65 per bushel, . . .	2 60
Onions, 206 bunches, at \$0.05 per bunch, . . .	10 30
Onions, 78 bushels, at \$0.60 to \$0.75 per bushel, . . .	47 70
Parsley, 14 pecks, at \$0.25 to \$0.30 per peck and bushel, . . .	1 72
Parsnips, 21 bushels, at \$0.50 per bushel, . . .	10 50
Pears, 4½ bushels, at \$2.00 per bushel, . . .	9 00
Peas, 17 bushels, at \$1.25 per bushel, . . .	21 26
Peppers, 4 bushels, at \$0.30 to \$0.40 per bushel, . . .	1 14
Potatoes, 743¾ bushels, at \$0.62 to \$0.90 per bushel, . . .	486 03
Radishes, 25½ bushels, at \$0.75 per bushel, . . .	13 63
Rhubarb, 731 pounds, at \$0.02 per pound, . . .	14 62
Squash, 11,518 pounds, at \$0.01 to \$0.02 per pound, . . .	136 88
Squash (summer), 1,656, at \$0.03 per pound, . . .	49 68
Straw, 300 pounds, at \$0.75 per hundred, . . .	2 25
Swiss chard, 152 bushels, at \$0.35 to \$0.50 per bushel, . . .	43 18
Tomatoes, 151½ bushels, at \$0.50 to \$1.00 per bushel, . . .	104 13
Turnips, 5 bushels, at \$0.50 per bushel, . . .	2 50

\$8,296 16

POULTRY DEPARTMENT.

CONSTRUCTION.

Appropriation (Resolves 1908, chapter 93), building,	.	\$900 00
Appropriation (Resolves 1908, chapter 93), equipment,	.	900 00
Appropriation (Resolves 1909, chapter 77), enlarging,	.	1,000 00
		<hr/> \$2,800 00

EXPENDITURES.

Building: —

Lumber,	.	.	\$336 66
Roofing,	.	.	173 82
Hardware,	.	.	39 41
Water and steam fittings,	.	.	44 06
Labor,	.	.	287 36
Transportation,	.		18 20

\$899 51

Equipment: —

Furnishings,	.	.	\$46 53
Hardware,	.	.	10 58
Labor,	.	.	52 00
Poultry,	.	.	600 50
Feed and grain,	.	.	125 80
Sundries,	.	.	63 88

899 21

Enlarging: —

Lumber,	.	.	\$130 60
Hardware,	.	.	14 97
Roofing,	.	.	110 60
Labor,	.	.	376 60
Poultry,	.	.	359 85
Sundries,	.	.	7 20

999 82

2,798 62

Reverting to treasury,	\$1 38
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The following is a statement of the poultry department from its commencement, Oct. 1, 1908, to Nov. 30, 1909 : —

Maintenance.

Stock: —

Poultry,	\$960 35
Grain and feed,	125 80

\$1,086 15

Poultry,	\$158 00
Grain and feed,	1,289 52
Water,	2 80
Labor,	617 38
Repairs and improvements,	75 63
Sundries and board of employees,	437 13

2,580 46

\$3,666 61

Returns.

Eggs delivered to sanatorium,	\$1,726 83
Poultry delivered to sanatorium,	237 77
Fertilizer delivered to sanatorium,	43 75
Sundries,	2 00

\$2,010 35

Stock: —

Eggs,	\$6 76
Poultry,	814 73
Grain,	116 09
Sundries,	14 07

951 65

2,962 00

Difference,	\$704 61
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VALUATION.¹

Nov. 30, 1909.

Real estate:—

Land, number of acres, 365, valuation,	\$24,464 00
Buildings, valuation,	473,870 00
Total real estate valuation,	<u>\$498,334 00</u>

Personal estate:—

Live stock on farm,	\$8,017 00
Produce of farm on hand,	2,230 25
Carriages and agricultural implements,	1,584 00
Machinery and mechanical fixtures,	1,950 00
Beds and bedding in inmates' department,	8,000 00
Other furniture in inmates' department,	1,750 00
Mission furniture,	7,500 00
Personal property of State in superintendent's department,	1,650 00
Ready-made clothing,	500 00
Dry goods,	2,497 61
Provisions and groceries,	1,207 59
Drugs and medicines,	950 00
Fuel,	875 00
Library,	1,000 00
Other supplies undistributed,	1,234 09
Total personal estate valuation,	<u>\$40,945 54</u>
Total valuation,	\$539,279 54

¹ See Revised Laws, chapter 84, section 7.

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906: —

Population.

	Men.	Women.	Totals.
Number of patients present at beginning of fiscal year,	189	158	347
Number received during year,	411	372	783
Number discharged during year,	416	368	784
Number of deaths included in preceding item,	9	2	11
Number at end of fiscal year,	184	162	346
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during year,	185	156	341
Average number of officers and employees during the year,	101	62	163

Expenditures.

Current expenses: —

1. Salaries and wages,	\$59,476 53	
2. Clothing,	—	
3. Subsistence,	81,677 59	
4. Ordinary repairs,	4,973 06	
5. Office, domestic and out-door expenses,	40,582 09	
		\$186,709 27

Extraordinary expenses: —

1. New buildings, land, etc.,	\$11,117 95	
2. Permanent improvements to existing buildings,	5,046 30	
		16,164 25

Grand total, \$202,873 52

LIST OF WAGES.

Superintendent and treasurer (per annum),	\$2,500 00
Physician (per annum),	1,500 00
Physician (per annum),	1,000 00
Physician (per annum),	900 00
Assistant physician (per annum),	400 00
Matron (per annum),	1,200 00
Steward (per annum),	1,200 00
Chief engineer (per annum),	1,200 00
Farmer (per annum),	900 00
Bookkeeper (per week),	8 05
Stenographer (per week),	9 21
Office assistant (per week) (without living),	6 90
Pharmacist (per week),	4 14
Nurses (per week),	\$6 90 to 9 21
Nurses (night) (per week),	9 21
Attendants (per week),	\$3 00 to 5 75
Night attendant (per week),	11 05
Dietitian (per week),	13 81
Assistant dietitian (per week),	5 75
Cook (per week),	19 56
Assistant cook (per week),	11 50
Baker (per week),	18 41
Supervisors (male) (per week),	\$5 75 to 9 21
Supervisor (female) (per week),	4 00
General work (per week) (male and female),	\$2 75 to 5 75
Storekeeper (per week),	9 21
Storeroom helpers (per week),	\$3 45 to 8 05
Engineer and fireman (per week),	13 81
Engineer (per week) (without living),	15 00
Firemen (per week),	\$6 90 to 8 05
Laundress (per week),	7 00
Laundry help (male) (per week),	\$3 25 to 7 00
Laundry help (female) (per week),	\$3 50 to 5 00
Kitchen help (per week),	\$3 45 to 6 90
Waiters (per week),	\$3 00 to 5 75
Waitress (per week),	3 45
Serving rooms (male) (per week),	\$3 45 to 4 40

Serving rooms (female) (per week),	.	.	.	.	\$3 25 to 6 50.
Diet kitchen girls (per week),	.	.	.	.	\$3 25 to 4 00
Expressman (per week),	.	.	.	.	6 44
Coachmen (per week),	.	.	.	.	\$3 45 to 6 90
Farm help (per week),	.	.	.	.	\$4 60 to 6 44
Farm help (without living) (per day),	.	.	.	.	\$1 75 to 2 00
Poultry manager (per week),	.	.	.	.	6 90
Carpenters (without living) (per day),	.	.	.	.	\$2 70 to 3 00
Carpenter (per week),	.	.	.	.	7 00

STATISTICAL TABLES.

STATISTICAL TABLES.

TABLE I. — *Admissions and Discharges.*

	Men.	Women.	Totals.
Number of patients in sanatorium Dec. 1, 1908, .	189	158	347
Number admitted Nov. 30, 1908, to Dec. 1, 1909,	411	372	783
Number discharged Nov. 30, 1908, to Dec. 1, 1909,	416	368	784
Number of deaths (included in preceding item), .	9	2	11
Number remaining in sanatorium Nov. 30, 1909, .	184	162	346
Daily average number of patients,	185	156	341

TABLE II. — *Monthly Admissions and Discharges, with Average Monthly Population.*

DATE.	ADMITTED.		DISCHARGED.		Daily Average.
	Men.	Women.	Men.	Women.	
1908.					
December,	29	28	28	29	341
1909.					
January,	28	22	37	22	345
February,	25	25	19	30	342
March,	33	31	37	26	342
April,	43	42	39	41	340
May,	54	29	56	37	338
June,	29	34	30	34	339
July,	28	27	30	19	340
August,	41	33	38	36	338
September,	35	41	35	36	340
October,	32	25	30	33	345
November,	34	35	37	25	343
Total,	411	372	416	368	—

TABLE III. — *Distribution of Examinations.*

PLACE OF EXAMINATION.	Number.
Boston, Massachusetts General Hospital, . . .	1,678
Rutland,	247
Worcester City Hospital,	184
Fall River,	132
Lowell,	89
Springfield,	71
Pittsfield,	59
Northampton,	42
Greenfield,	15
Worcester, Hahnemann Hospital,	3
Total,	2,520

TABLE IV. — *Residence of Patients admitted.*

COUNTIES.	Men.	Women.	Totals.
Suffolk,	136	115	251
Middlesex,	61	63	124
Essex,	50	36	86
Worcester,	57	66	123
Bristol,	35	27	62
Plymouth,	22	15	37
Norfolk,	8	11	19
Hampden,	16	12	28
Berkshire,	14	14	28
Hampshire,	4	4	8
Franklin,	8	7	15
Barnstable,	—	2	2
Totals,	411	372	783

TABLE V. — *Nativity of Patients admitted.*

BORN IN —	Men.	Women.	Totals.	BORN IN —	Men.	Women.	Totals.
United States, .	297	258	555	Sweden, .	11	6	17
Austria, .	2	—	2	New Brunswick,	2	4	6
Canada, .	12	14	26	Province of			
Cape Breton, .	2	—	2	Quebec, .	—	1	1
Denmark, .	2	—	2	South Africa, .	—	1	1
England, .	10	6	16	Prince Edward			
Germany, .	3	—	3	Island, .	2	—	2
Ireland, .	24	31	55	Western Islands,	1	1	2
Italy, .	3	2	5	Portugal, .	—	1	1
New Foundland,	1	5	6	Bohemia, .	—	1	1
Norway, .	2	—	2	Armenia, .	2	1	3
Nova Scotia, .	4	16	20	Switzerland, .	1	—	1
Poland, .	1	—	1				
Russia, .	24	23	47	Totals, .	411	372	783
Scotland, .	5	1	6				

TABLE V. — *Nativity of Patients admitted — Concluded.*

FATHERS BORN IN —	Men.	Women.	Totals.	FATHERS BORN IN —	Men.	Women.	Totals.
Austria, .	1	—	1	Scotland, .	4	4	8
Canada, .	16	14	30	Sweden, .	3	4	7
Cape Breton, .	1	—	1	Wales, .	1	—	1
England, .	14	16	30	New Brunswick,	2	5	7
Germany, .	9	11	20	Prince Edward			
Ireland, .	76	59	135	Island, .	3	2	5
Italy, .	3	—	3	Western Islands,	1	—	1
New Foundland,	2	—	2	Portugal, .	1	—	1
Norway, .	2	—	2	West Indies, .	—	1	1
Nova Scotia, .	10	7	17				
Russia, .	3	6	9	Totals, .	152	129	281

TABLE VI. — *Civil Condition of Patients admitted.*

	Men.	Women.	Totals.
Single,	157	161	318
Married,	247	191	438
Widowed,	7	19	26
Divorced,	—	1	1
Totals,	411	372	783

TABLE VII. — *Age of Patients admitted.*

	Men.	Women.	Totals.
14 to 20 years,	68	77	145
20 to 30 years,	177	157	334
30 to 40 years,	117	97	214
40 to 50 years,	39	36	75
Over 50 years,	10	5	15
Totals,	411	372	783

TABLE VIII. — *Occupations.*

	Men.	Women.		Men.	Women.
Actor,	—	1	Candy maker,	1	—
Attendants,	4	1	Canvassers,	2	1
Baggage master,	1	—	Carpenters,	2	—
Barber,	1	—	Cash girl,	—	1
Bartenders,	5	—	Cashier,	—	1
Blacksmiths,	3	—	Chauffeurs,	2	—
Boiler maker,	1	—	Chemist,	1	—
Bookbinders,	3	1	Cigar makers,	3	—
Bookkeepers,	5	7	Clerks,	47	14
Bottler,	1	—	Cloth examiner,	1	—
Bowling alley,	1	—	Coachman,	1	—
Brakemen,	3	—	Conductor, railroad,	1	—
Bundle girl,	—	1	Conductors, street rail- way,	6	—
Butchers,	2	—	Cooks,	1	1
Cabinet makers,	4	—	Cooper,	1	—

TABLE VIII. — *Occupations* — Continued.

	Men.	Women.		Men.	Women.
Dentist,	1	—	Iron molders,	2	—
Designer,	1	—	Janitors,	2	—
Domestics,	—	11	Laborers,	20	—
Draughtsman,	1	—	Lamplighter,	1	—
Dressmakers,	—	2	Laundry,	1	1
Electricians,	5	—	Lawyer,	1	—
Elevator boy,	1	—	Leather workers,	2	1
Engineers, locomotive,	2	—	Letter carrier,	1	—
Engineer, marine,	1	—	Librarians,	—	2
Engineer, stationary,	1	—	Longshoreman,	1	—
Engravers,	2	—	Machinists,	23	—
Druggists,	2	—	Manager,	1	—
Factory,	50	46	Mason,	1	—
Farmers,	5	—	Matron,	—	1
Fireman, railroad,	1	—	Meat cutter,	1	—
Fishermen,	2	—	Mechanics,	3	—
Fish cutters,	2	—	Metal workers,	3	—
Foremen,	7	—	Milliners,	—	2
Gardeners,	2	—	Minister,	1	—
Grocer,	1	—	Motormen,	3	—
Hackmen,	2	—	Musician,	1	—
Housewives,	—	155	Newspaper reporter,	1	—
Housework,	—	26	No work,	1	6
Insurance,	1	—	Nursemaid,	—	1

TABLE VIII. — *Occupations* — Concluded.

	Men.	Women.		Men.	Women.
Nurses, student, . . .	—	2	Shoe shop, . . .	25	15
Nurses, trained, . . .	1	2	Station agent, . . .	1	—
Packers, . . .	1	1	Steam fitter, . . .	1	—
Painters, . . .	10	—	Stenographers, . . .	5	6
Paper hanger, . . .	1	—	Steward, . . .	1	—
Pedlers, . . .	5	—	Stone cutter, . . .	1	—
Photographers, . . .	1	1	Students, . . .	23	17
Physician, . . .	1	—	Tailors, . . .	7	—
Piano tuner, . . .	1	—	Teachers, school, . . .	—	10
Policemen, . . .	3	—	Teamsters, . . .	15	—
Polisher, . . .	1	—	Telegraph operators, . . .	2	—
Porter, . . .	1	—	Telephone operators, . . .	—	3
Priest, . . .	1	—	Tinsmith, . . .	1	—
Printers, . . .	4	2	Tobacco stripper, . . .	—	1
Rodman, . . .	1	—	Tool makers, . . .	2	—
Sailor, . . .	1	—	Trunk maker, . . .	1	—
Salespeople, . . .	13	6	Upholsterer, . . .	1	—
Seamstresses, . . .	—	12	Waiters, . . .	4	11
Shippers, . . .	4	—	Weigher, . . .	1	—
Shoe cutters, . . .	7	—	Totals, . . .	411	372

TABLE IX. — *Classification of Results (National Association Classification).*

	INCIPIENT.				MODERATELY ADVANCED.				FAR ADVANCED.				TOTALS.			
	Men.	Women.	Totals.	Per Cent.	Men.	Women.	Totals.	Per Cent.	Men.	Women.	Totals.	Per Cent.	Men.	Women.	Totals.	Per Cent.
Apparently cured, . . .	61	64	125	61.57	26	17	43	12.61	—	—	—	—	87	81	168	25.77
Arrested, . . .	22	30	52	25.61	98	49	147	43.11	12	4	16	14.81	132	83	215	32.97
Improved, . . .	4	18	22	10.83	53	59	112	32.84	18	26	44	40.74	75	103	178	27.30
Not improved, . . .	1	3	4	1.97	18	21	39	11.43	25	23	48	44.44	44	47	91	13.95
Totals, . . .	88	115	203	31.13	195	146	341	52.30	55	53	108	16.56	338	314	652	—

TABLE X. — *Comparison of Percentages since the Adoption of National Association Classification.*

INCIPIENT CASES.	1905.	1906.	1907.	1908.	1909.
Apparently cured,	39.2	50.4	56.1	33.0	61.57
Arrested,	46.7	40.1	26.8	46.5	25.61
Improved,	12.0	8.9	16.3	17.3	10.83
Not improved,	2.0	.6	.7	3.0	1.97

TABLE XI. — *Number of Patients having Hæmoptysis.*

	Men.	Women.	Totals.
Hæmoptysis prior to admission,	150	124	274
Hæmoptysis in sanatorium,	55	54	109
Totals,	205	178	383

Per cent. of cases with record of hæmoptysis: before entrance, 42; in sanatorium, 16.

TABLE XII. — *Deaths, Duration of Disease, Length of Stay in Sanatorium and Cause of Death.*

No.	Duration.	Stay.	Cause of Death.
6839	1 month,	10 days,	Pneumonia.
6829	5 months,	9 days,	Tumor of the brain.
6603	2 months,	5 months, 12 days,	Tubercular pneumonia.
6677	2 years,	10 months, 16 days,	Pneumothorax.
6371	Unknown,	4 months, 4 days,	Pulmonary tuberculosis, Tubercular enteritis.
6051	Unknown,	9 months, 19 days,	Pulmonary tuberculosis.
6673	16 months,	1 month, 14 days,	Pulmonary tuberculosis, Hæmoptysis.
6768	6 months,	1 month, 21 days,	Pulmonary tuberculosis.
6735	5 months,	2 months, 14 days,	Miliary tuberculosis.
6500	Unknown,	7 months, 20 days,	Pneumothorax.
7118	7 years,	14 days,	Miliary tuberculosis.

TABLE XIII. — *Admissions and Discharges from the Beginning of the Sanatorium.*

	Number.	Per Cent.
Admitted, ¹	7,356	—
Discharged,	7,010	—
Not considered,	1,405	—
Considered,	5,605	—
Arrested and apparently cured,	2,591	46.22
Improved,	2,454	43.78
Not improved,	560	9.99
Died,	59	—

¹ Including 8 patients discharged for surgical treatment elsewhere and readmitted under original number.

Climatological Data, Massachusetts State Sanatorium, Rutland, Altitude, 1,160 Feet, for the Official Year beginning Dec. 1, 1908, and ending Nov. 30, 1909.

DATE.	Mean Temperature.	Clear Days.	Partly Cloudy Days.	Cloudy Days.	Days with Rain or Snow.	Precipitation ¹ (Rain in Inches and Hundredths).	Precipitation ² (Snow in Inches and Hundredths).	Total Wind Movement (Miles).	Wind Average per Hour (Miles).	Mean Relative Humidity (Per Cent.).
1908.										
December, .	25.4	15	5	11	11	3.32	7.25	7,644	10.3	75.1
1909.										
January, .	23.7	13	4	14	16	3.28	10.65	7,803	11.6	81.5
February, .	25.8	15	6	7	16	6.37	14.01	8,039	12.0	74.4
March, .	30.0	14	8	9	16	5.05	14.65	7,973	10.7	68.2
April, .	42.8	15	6	9	17	6.51	.45	8,727	12.1	66.7
May, .	53.2	14	12	5	13	2.28	—	7,625	10.2	68.8
June, .	65.2	19	8	3	9	3.21	—	6,739	9.4	64.6
July, .	66.7	18	11	2	9	5.18	—	6,518	8.8	68.3
August, .	65.1	20	6	5	7	4.11	—	5,517	7.3	69.8
September, .	59.0	14	5	11	14	3.59	—	5,844	8.1	80.1
October, .	47.7	20	6	5	10	1.73	—	6,528	8.8	68.8
November, .	40.6	12	8	10	9	2.16	2.60	7,813	10.8	70.1
Totals, .	545.2	189	85	91	147	46.79	49.61	86,770	120.1	856.4
Averages, .	45.4	15.8	7.1	7.6	12.2	3.90	8.27	7,231	10.0	71.4

¹ Includes rain, melted snow and hail.

² Average taken from months with snow only.

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